



# **TRUE TEMPER** *Garden Book*

HOW TO MAKE & CULTIVATE A GARDEN — 56 PAGES ILLUSTRATED



## A Request

THIS is the third edition of the TRUE TEMPER GARDEN BOOK. It follows, in the main the lines of the first and second editions, of which we distributed about two hundred and fifty thousand copies, mostly upon the personal request of both experienced and prospective gardeners, everyone of whom, so far as we have heard from them, has expressed his appreciation of the matter in this book and the way it has been presented—in fact, it is the complimentary expressions of those who have read the book and the great interest that it has produced among gardeners, horticulturists and instructors in schools and colleges, that have influenced us to bring out three editions.

We have incorporated in this third edition some valuable suggestions that were made to us by the readers of the other editions, and we have also added some data which we believe will add to the usefulness of the book. We want, however, to make the same request in this edition that we made in the other editions, namely, that if any of the readers notice any mistakes, or can send us any information that should be added in order to make the book more complete, we shall be obliged if they will send this to us.



# ***TRUE TEMPER*** **Garden Book**

This book has been prepared with great care and published at large expense, for free distribution to present and future users of True Temper Tools, in the hope that the pleasure and profit derived from the use of our tools will be increased by the accurate and broad knowledge contained herein.

Copyright, 1927  
The American Fork & Hoe Co.  
Cleveland, Ohio

January 1, 1928

**THE AMERICAN FORK & HOE COMPANY**  
**Manufacturers of True Temper Tools**  
**"The Standard of the World"**  
**CLEVELAND, OHIO**



## “From Your Own Garden”

Did you ever taste fresh vegetables?

Do you know the true flavor of sweet corn, green peas, wax beans, or tomatoes?

Not unless you have them fresh from a garden!

The wilted, dead things that you buy from the store or huckster wagon have lost all of their crispness and tang. The goodness has been dried out of them by hours or even days of exposure to sun, wind and dirt.

Not only have they lost their delicious taste because decomposition sets in as soon as the fruit or vegetable is taken from the plant, but they are far less digestible and nutritious than vegetables taken direct from the garden to the kitchen.

You hear many people say that they cannot eat green corn, peas, strawberries or some other garden delicacy.

The reason is that they have never really had a chance to eat them fresh and sweet as they were intended to be eaten “from your own garden.”

Are you a lover of flowers?

You cannot be in the truest sense unless you have planted them, tended them, picked them with your own hands.

The cut flowers you take from the pasteboard box—no matter how perfect their form—can never give you the same thrill you get from the sweet peas, the pansies, the roses that you bring fresh from the dew of “your own garden.”

But even these pleasures are not the greatest of the benefits you receive from a garden.

There is vigorous exercise of every muscle in the body, there is plenty of sunshine and fresh air, there is more health building value in an hour of such work than in a hundred hours of setting up exercises to the time of canned music.

Nor is it the bodily health alone that is improved. You can rest your mind—brush it free of cares and worries—you can acquire calm and poise from work in your garden that you can get in no other way.

*This book has been written in the hope that it may help you to find all these good things in a “garden of your own.”*



# Plant Your Garden Carefully

Soil in the yards of many city homes will grow excellent crops with very little work. Much of it was highly productive farm land a few years ago and had the best of care at that time.

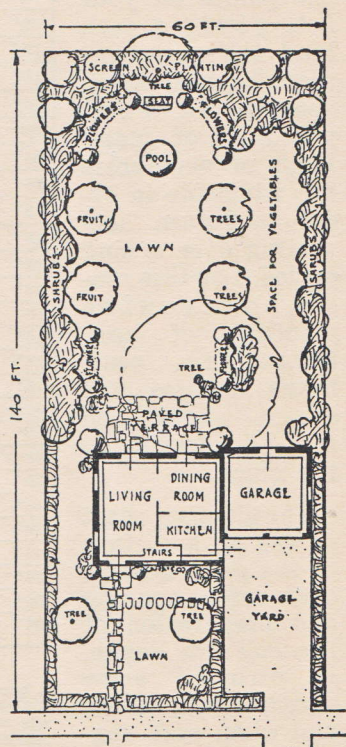
However, even though you are not so fortunate as to have some of the good soil on your place, you may rest assured that the most obstinate soil imaginable can be brought into a highly fertile and productive condition with proper treatment. The following chapters describe methods for the preparation and treatment of every type of soil, so that every one—city man or farmer—may have a vigorous garden that will be a source of pleasure and profit.

**Laying out the grounds and locating the garden.** The new home built upon a lot that has never been cultivated or planted, presents the most difficult problem of all. Artistic arrangement of ornamental plantings is an expert's task. Variety and location of hedges and other perennials which are designed to beautify the house and premises may well be left to an experienced landscape architect.

He will prepare a diagram of the whole lot and indicate just where and how the plantings should be placed. It will mark the most desirable location for the vegetable garden so that the latter will not detract from, but will really improve the appearance of the grounds.

This does not cost as much as most people believe and the money expended upon such assistance will ultimately prove a good investment in the property. A neatly cropped lawn, with an abundance of attractive shrubbery and a properly located garden, enhances the market value of any home.

**A Planting Chart for the Garden** is the first step toward success. Secure a large piece of heavy paper that will become a permanent record of results during the whole season. Lay off the boundaries of your garden to a predetermined scale ( $\frac{1}{4}$  inch to the foot is a convenient scale). List all the vegetables and flowers you wish to plant. Then note opposite the name of each plant the distances between rows and between plants in the row as given on Pages 28 and 29.



**Planting Diagram of Residence Plot**

The landscape architect's planting diagram for even the smallest city residence lot will show the location of shrubbery, hedges, walks and drive, as well as the most desirable place for the vegetable garden.



Every well planned garden will have the following divisions:

1. A section for early maturing vegetables like lettuce, radishes, onions, which may be replaced after maturity early in the summer, by others.
2. A section for late maturing vegetables that will occupy the soil all season, as melons, cucumbers, cabbage.
3. A section for perennial plants and vegetables which grow from season to season without replanting, such as rhubarb, asparagus, horseradish, globe artichoke, and the like. These should be planted at one side or end of the garden plot where they will not interfere with work on the other portion.

Keeping in mind the advisability of grouping these three classes of vegetables, draw off the rows you propose to devote to each of the plants on your list, giving each kind the necessary room for best development. Several plantings of many kinds of vegetables are advisable in order to insure harvesting over a long period. For this reason, successive plantings of corn, tomatoes, peas, beans, lettuce and others should be marked clearly on the chart.

The planting chart serves as a picture of the garden-to-be, even before spading and preparation of the soil are begun. It should show clearly what, where and when each vegetable is to be planted. It should be preserved as a record of the dates and amounts harvested so it can be used in following years as a guide to an ever better garden. The mistakes in culture, scarcity or overabundance of each kind of vegetable as recorded on the chart, are the best teachers of the proper procedure for the next season.

Inches between rows

18"	Asparagus: April 1-15	Horseradish: April 1-15
36"	Asparagus: April 1-15	Rhubarb: May 1-15
36"	Asparagus: April 1-15	Rhubarb: May 1-15
36"	Beets: April 15-30	
18"	Beets: April 15-30	
18"	Carrots: April 15-30	
18"	Carrots: April 15-30	
18"	Onions: April 15-30	
18"	Onions: April 15-30	
18"	Peas: April 1-15	Follow with late cabbage: June 1-15
36"	Peas: April 1-15	Follow with late cabbage: June 1-15
36"	Peas: May 1-15	Follow with winter radishes: July 1-15
36"	Peas: May 1-15	Follow with fall endive: July 1
36"	Early cabbage: April 15-30	Intercrop with lettuce
18"	Early snap beans: May 15-30	
18"	Tomatoes: May 15-30	
18"	Early snap beans: May 15-30	
18"	Tomatoes: May 15-30	
18"	Early turnip: April 15-30	Summer radishes: April 15-30
18"	Tomatoes: June 1-15	
18"	Lettuce: April 1-15	
18"	Lettuce: April 15-30	
36"	Cucumbers: May 15-30	Squash: May 15-30
36"	Early snap beans: May 15-31	
18"	Early snap beans: May 15-31	
18"	Bush lima beans: May 20-31	
18"	Bush lima beans: June 1-10	
36"	Sweet corn: May 1-15	
36"	Sweet corn: May 1-15	
36"	Sweet corn: May 15-31	
36"	Sweet corn: May 15-31	
36"	Sweet corn: June 1-10	

#### Garden Planting Chart

A properly made planting chart will show the location of perennial bed, and the rows devoted to early maturing vegetables, late maturing vegetables and the succession crops. Approximate planting dates should also be noted and the planting schedule adhered to as closely as possible.



**When to plant** depends upon the condition of the soil, "hardiness" of the plants and the danger of killing frosts. Advice and example of experienced gardeners in your locality are undoubtedly the best guides for beginners. A reasonable delay will always be better than undue haste in planting outdoors.

Vegetables have been roughly classified as "very hardy," "hardy," "tender" and "very tender," according to their ability to withstand the effects of frost. Some very tender plants suffer severely during continued cool, wet weather and these should not be planted outdoors until the ground is warm. The relative hardiness of the commoner vegetables has been indicated in the Chart on Pages 28 and 29.

Planting time is a difficult date to determine accurately because so many factors must be taken into consideration. Northern sections obviously have later killing frosts and a later Spring rainy season than southern sections.

High elevations are cooler than lower plains and valleys, while large bodies of water moderate the extremes of heat and cold, tending to prevent late frosts and thus favor early planting.

Many experienced gardeners use "Nature's Calendar" to determine the time to plant. The hardier trees and shrubs put on leaves and flowers only after the soil has warmed up to a safe temperature. Apple, grape and lilac are the most common of the trustworthy plants to be observed for this purpose.

## Hotbed for an Early Start

The man who makes the most of his garden will build a hotbed to give very early and tender vegetables a good start. The hotbed will also be found useful for starting many varieties of flowers. The ladies of the family will appreciate these advantages and enjoy having early blooms in their gardens.

It should be placed where it will receive the most sunlight and the greatest protection from cold winds and storms. The south side of the garage, barn or hedge always makes the best location. Good under drainage is also an important requirement.

Determine how large a hotbed is needed. The dimensions depend upon the number of cover sash desired. The standard hotbed sash are made three feet wide and six feet long. A one-sash hotbed will serve the needs of the average city gardener, though a larger one will supply a quantity of extra early lettuce, endive, and other vegetables, as well as an abundance of seedlings for transplanting as soon as the weather permits.

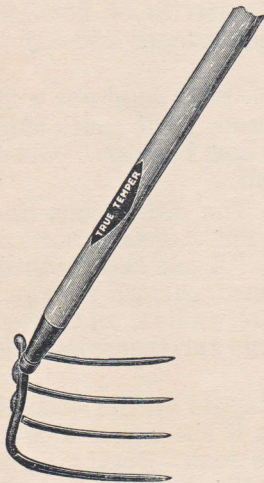
Having determined the size, mark off a rectangle on the ground where the hotbed is to be constructed, making it six inches longer each way than the area to be covered by the sash. Next, dig a shallow pit (18 to 24 inches deep) bounded by the lines marked off and set a corner post (2"x4" scantling) in each corner. The rear or northerly posts should extend 18 inches above the ground level, the forward and southerly ones, but 12 inches. The differences in height give good drainage to the sash.





**True Temper Heavy Manure Fork—155**

This tool with either a long handle or a D-Top handle will be found most suitable for handling stable manure when making a hotbed or mulching the shrubbery and garden in the Fall or for spading around the roots of hedges and shrubs.



**True Temper Manure Hook—M40**

For large gardens on which large quantities of manure are applied, a manure hook is a convenient tool for unloading wagon or truck.

Board up the sides above the ground, and nail an extra strip of wood (2 or 3 inches wide) around the top to insure a close fit on the lower side of the covering sash.

Manure to be used in the hotbed should be prepared ten days or two weeks before the hotbed will be wanted for sowing. Manure that has a large proportion of straw or litter will give the best results and if the material available does not have a sufficient amount of straw, more should be added.

Pile the entire quantity necessary for filling the hotbed (to within twelve inches of the top) in one heap at the side of the pit to be used. If it is dry at the time of piling it should be wet down with water in order to start fermentation. The heap should begin to steam in two or three days and when fermentation has progressed to the stage when the interior of the mass is very hot but not dry, it should be turned completely over with a fork.

In turning the heap, be sure that all of that which was on the outside of the first pile is turned well into the center of the second so that fermentation will be uniform throughout. Three or four days more should be required for this process after which the manure will be ready for the pit.

Place a layer of straw or leaves in the bottom of the pit to conserve the heat. The manure should then be forked into the pit and distributed in thin layers over the entire surface. Each layer should be tamped in firmly, being especially careful to make the mass compact in the corners and around the edges. In filling the pit provision must be made for a normal shrinkage of two or three inches which takes place as the heat subsides. Place the covers on tightly and allow entire mass to heat up for several days.

After four or five days, ventilate by lifting the sash at one end during the day time. Allow the interior portions of the manure to cool down to 88° or 90° Fahrenheit. Then take off the sash and cover the manure in the hotbed with a six inch layer of rich, loose garden soil. Smooth



off and sow seed in rows three or four inches apart. Sprinkle the soil and ventilate carefully, avoiding too much moisture at high temperature. When seedlings appear, thin them out from time to time, to maintain a distance between plants that gives unhampered spread of leaves and roots as they develop.

Watering and ventilation of the hotbed require careful attention. At first there is great danger of heating up and the sash should be lifted at the bottom for an hour or two during the middle of warm sunny days. When danger of heating has passed, ventilation can be better controlled by sliding sash down several inches from the top.

The greatest danger of all comes from over-watering tender seedlings that have such limited ventilation and opportunity to dry off. It is necessary, therefore, to water sparingly, and always during the morning on days when the sash can be opened slightly. Care on this subject will prevent the ravages of "damping-off" disease. This is a soil condition which spreads rapidly from plant to plant, but which usually attacks when plants are waterlogged.

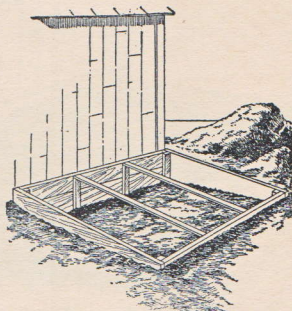
As warm Spring days come, sash can be entirely removed and plants handled as they would be in a garden seed bed. Many gardeners believe in keeping seedlings as dry as can be done without wilting, for several days before setting out. This will make plants hardier and thus better able to stand transplanting to other soil. They should be freely watered, however, after being transplanted and given every opportunity to make a quick growth thereafter.

Cold frames are used in warmer climates more commonly than hotbeds. They are intended to protect seedlings or tender growing plants from injury by frosts and serve the purpose admirably where the day temperatures are warm



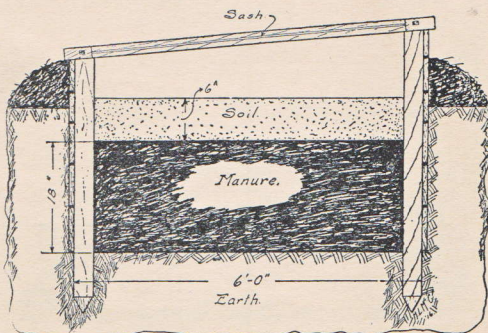
**Preparing Hotbed Pit**

The pit dug for the hotbed should be 18 to 24 inches deep and slightly wider than the length of cover sash. Manure to be used should be turned at least once before being placed in the hotbed.



**Hotbed Frame Ready for Sash**

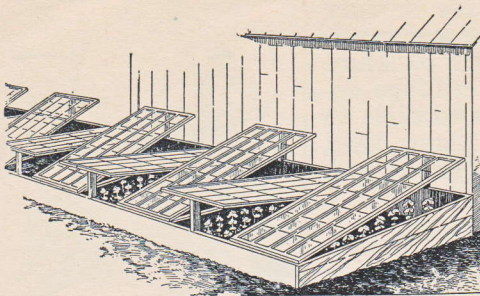
When hotbed is several sash long, supports similar to those shown here should be placed across the bed.



**Cross Section of Hotbed**

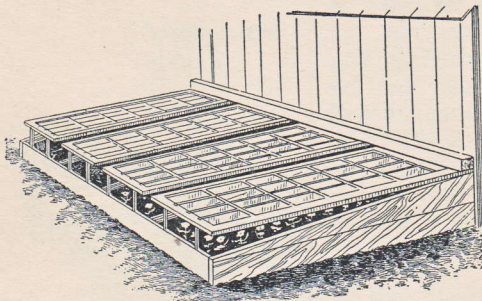
This diagram indicates the position of corner posts, side boards and sash, together with depth of bottom manure, soil and the side banking.





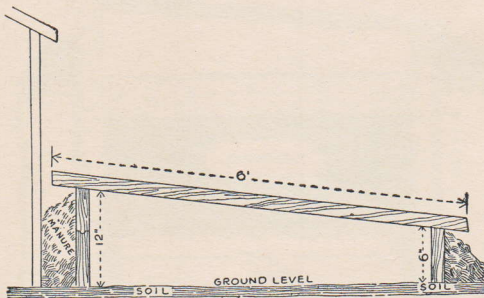
**Ventilating Hotbed**

Raising alternate sash at opposite ends insures thorough ventilation of hotbed on warm days.



**Moderate Ventilation**

On colder days but only while the sun is shining, cover sash may be raised a few inches at the lower end.



**Cold Frame**

This diagram gives the dimensions for a satisfactory cold frame. Be sure to bank sides and ends with a thick layer of manure or soil.

enough to maintain satisfactory growth without the aid of additional heat.

They are made in the same way as hotbeds, except no provision is made for bottom heat. The side walls may extend down to or slightly below the surface of the ground. A few inches of composted soil are spread evenly over the bottom. Manure or soil is banked about the outer sides to check entrance of cold winds. Rules for watering, cultivation and ventilation given under hotbeds, apply here also.

## Flats and Paper Bands

When neither hotbed nor cold frame is available, early seedlings can still be grown in the kitchen or cellar windows. For this purpose, use shallow wooden boxes called "flats." These are usually made about six inches deep, twelve to eighteen inches wide and as long (up to thirty inches) as convenient.

Store boxes may be sawed through into two shallow trays, but best results will be had from flats constructed especially for the purpose. When such are made, cypress lumber should be used because of the lasting qualities of this wood under damp conditions.

Composted or potting soil should be sifted into the flat, pressed down firmly and leveled to within a half inch of the top. Seed are then planted in shallow rows three inches apart.



The newer method, particularly for tender seedlings that suffer noticeably when transplanted, calls for the use of paper bands. These are small paper boxes without bottoms, about as high as the flat is deep and four inches wide on each side. These can be procured from any garden supply or seed store or may be easily made from suit boxes or cardboard.

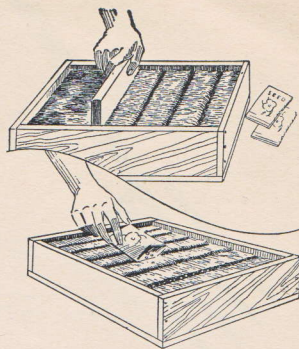
A half inch layer of soil is first sprinkled over the bottom of the flat. Row after row of bands are placed, pressed into the soil so that the flat presents a honeycomb appearance. Soil is then sifted over the bands until they are filled. They can be firmed down by shaking the flat sharply. Sow four or five seeds in each band and cover according to the directions given for each kind of seed.

Water carefully, preferably by setting entire flat in a shallow tray or pan so that the water is absorbed from below. Thin out each band to two seedlings, as soon as they appear above the surface, and later to the better one of the two as soon as they become firmly established.

When transplanting, the bands with the seedlings inside are taken from the flat and planted into the garden soil. Plants handled in this way never show the slightest ill effects from the change. In fact, their root system has not been disturbed in the least, and in making new growth, pass into the deep soil without difficulty.

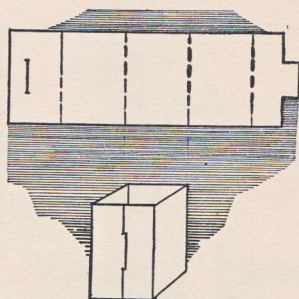
**Seeds of hardy plants** often do well when started outdoors in the early Spring. A place should be provided for a seed bed in which such seedlings may be grown. The seed bed should be located in the warmest and best drained corner of the garden and where the soil is particularly fine. If this part of the plot is not fertile, additional plant food can be added by applying a top dressing of commercial fertilizer.

Rows in the seed bed may be much closer together than those recommended for the same plants in their permanent location. Frequently a "straight edge" or board is used to make shallow drills in the soil for sowing. Four or five foot rows will usually be long enough to start all of the plants required.



**Sowing Seed in Flats**

A straight edge as long as the flat is wide is usually used to mark the rows for planting. Sift fine soil over the seed and water from below.



**Paper Plant Bands**

An unfolded plant band is shown above. The same folded is shown below. While these can be secured at all seed stores, suitable bands can be made at home from cardboard.

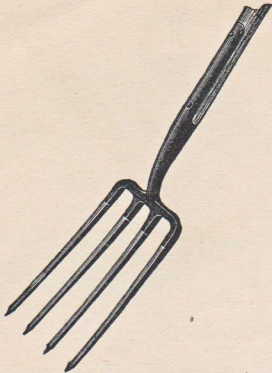


**Tomato Plant in Band**

When transplanting seedlings grown in this way to garden, bands can be buried in the soil without disturbing the roots.



# Preparation of the Soil



**True Temper English Digging Fork—E D 4**

Tines are sharp and strong. They will penetrate the stiffest soil with remarkable ease and break up the garden plot much more easily and quickly than a spade or ordinary spading fork.



**Enter Fork Vertically**

Hold fork as nearly upright as possible and drive the tines into the soil to full depth.



**Turn Clods Over**

Many gardeners are careless in turning clods and fail to break them while spading. Unless this is done it will be practically impossible to pulverize the soil later.

Ideal garden soil is loose, easily drained and rich in plant food—generally classed as a “dark loam”—with gravelly sub-soil. It must be of good mechanical texture, that is, readily crumbled between the fingers when moderately moist.

A sandy soil will produce earlier crops than a clay soil because it dries out more quickly and is more easily worked in the early Spring weeks. However, clay soils are said to produce larger yields during the growing season.

Naturally, every gardener has to accept the soil as he finds it but much can be done to improve it in all of the ways it may fall short of the ideal. Fertility, texture and drainage will be thoroughly explained in the following paragraphs, so every gardener can plan to make the most of the type of soil he “inherits” and look forward with confidence to a garden ultimately ideal or nearly so.

**Spading:** The finer you pulverize the top six or eight inches of soil in your garden, the better the harvest will be. Our True Temper Spading Fork will be found to be the most practical tool for breaking up the ground in the garden. It is so frequently misused that we here show illustrations of the correct method. Push it straight down; put sufficient pressure with the foot upon the shoulder of the fork to drive it in as deeply as possible; then raise the entire clod, turn it completely over in the furrow and break it up with a short stroke of the tool.

Many people make the mistake of prying the ground loose with the fork and then withdrawing the fork, leaving the soil in practically the same condition as they



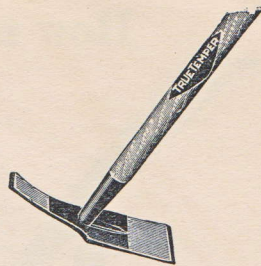
found it. When they rake it over, only the surface gets scratched. Weeds and old roots are left to sprout and grow again to the detriment of the plants it is hoped to grow.

Heavy clay soils that have not been under cultivation for a long period may require the use of a True Temper Mattock Hoe for breaking. With this tool, the clods can be loosened, then turned over and pulverized with a spading fork in the same way as described above.

**Rake the surface** and pulverize the soil as finely as possible for a depth of three inches at least. This should be done immediately after spading to prevent rapid drying out or baking of large lumps in the hot sun and wind. If raking is delayed, all chance of securing a favorable soil for planting will be lost until the work can be done after a rain. **Do not spade more at one time than you can rake promptly and thoroughly.**

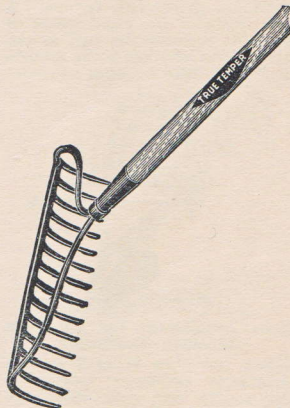
**Fall preparation** is by far the best practice when it can be done. When the garden is plowed or spaded in the Fall, the above warning regarding immediate raking does not apply. In this case the surface should be left rough and the clods exposed to the action of water and ice. An open garden in this condition stores up an abundance of water for later use. The action of freezing and thawing breaks up the clods and lumps far more satisfactorily than any rake or harrow can do.

Where the garden has been plowed or spaded in the Fall, our wheeled cultivators, such as the Standard and Geneva Cultivators with their assortment of attachments, are by far the best tools to use when preparing the soil for planting in the Spring.



**True Temper Steel Mattock—  
DE 3 H**

Clay soils which cannot be pulverized properly with a rake can be reduced to proper planting condition with a True Temper Mattock Hoe. This is an almost indispensable tool.



**True Temper Bow Rake—B 14**

The teeth, head, bows and shank are forged from one solid piece of steel. This is the very best garden rake you can buy and is the proper tool to use in pulverizing the top soil of a garden that is in good condition.

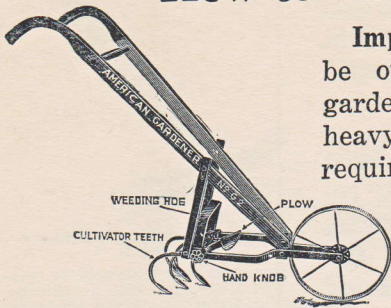


**True Temper Italian Grape  
Hoe—IGH 7**

The curved blade of this tool makes it very suitable for pulverizing the top soil between the rows, between large plants and around the base of trees and shrubs.

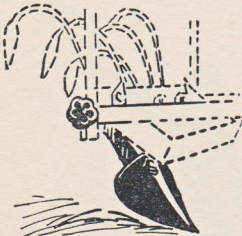


# How to Improve the Soil



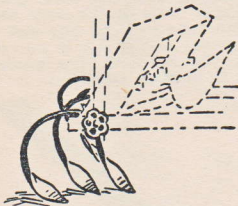
**American Gardener Cultivator**  
—G 2

This practical hand cultivator combines three tools in one. A few turns of the hand wheel at the side releases the tool in use and allows another to be securely locked into working position.



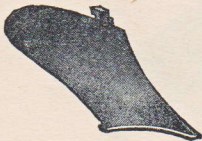
**Plow Attachment for American Gardener Cultivator**

When the plow is used on the American Gardener Cultivator the scuffle hoe and cultivator teeth are out of the way and do not interfere with use of the plowshare.



**Cultivator Attachment**

When cultivator teeth are in use both scuffle hoe and plow are in the upright position.



**Moldboard Plowshare**

Moldboard plowshare with land-side is supplied for use on American Gardener Cultivators. This is an exceptionally useful tool in preparing for planting a garden which has been Fall plowed or spaded.

**Importance of good texture** should not be overlooked. The most experienced gardener could never grow a good crop on heavy, stiff, clay soil. The fine root hairs require air as well as water and plant food for their best development. Thorough separation of the soil particles by sand, marl, organic matter or other suitable substances is necessary to bring about the best condition known as a loose texture.

An open or loamy soil holds more water and air than a clay soil which tends to cement itself into a compact mass that the delicate plant roots cannot penetrate. The open soil also holds more water following rains, and when well cultivated retains a large amount of moisture for extremely long periods.

**Clay soil** can be improved by addition of sand, lime, limestone, ashes, manure or litter. The best practice for the city gardener is an application of a liberal covering of manure in the late Fall. Plow or spade in the Fall or Spring and add a generous top dressing of hydrated or air slaked lime before raking. (See paragraphs on Liming and Humus.)

**Sandy soils** are too loose, and lack sufficient amount of humus and plant foods for satisfactory growth. Stable manure or decaying vegetable matter of any kind is the best conditioner of such soils. (See paragraphs on Humus.)

**Muck or bottom land** is usually very rich but often heavy and waterlogged. It is also strongly acid. Deep cultivation helps dry out such soils, though sub-drainage with tile is generally necessary. Lime is the most practical remedy for the acid condition and the proper amount of limy



materials will make muck land gardens the most productive of all.

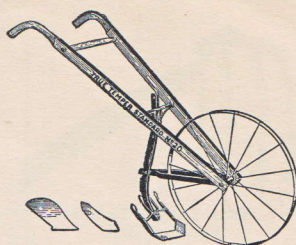
**Liming** will not only correct the acidity of the soil but it has many other beneficial effects. The amount of lime to be used depends upon the degree of acidity of the soil, the lime required by the plants to be grown and the physical nature of the soil itself.

Whether the soil in your garden is acid or not, can be easily determined. Secure several strips of blue litmus paper at the nearest drug store. Then mold a handful of wet soil into a ball, break the ball open and insert a short piece of the paper leaving part of it outside. Replace the halves of the ball and squeeze firmly. If the color of the paper where it enters the ball of soil turns to a faint pink, the soil is acid and needs liming.

Another method for testing acidity is sometimes used. The litmus paper is placed in the bottom or against the side of a thin glass tumbler. A handful of moist soil is then placed in the tumbler and pressed firmly against the test paper. After a few moments the paper will become thoroughly moistened. If it turns pink when moist, the soil is acid and will be greatly benefited by an application of lime.

The city gardener will obtain the quickest results from stone (lump) or hydrated lime. Purchase this in bulk or in paper bags from your local building supply dealer. Sixty-five pounds of stone lime that has been finely pulverized, or 100 pounds of "hydrated" lime, will be sufficient for a garden 50 feet by 50 feet in size (2500 square feet).

Raw limestone finely ground is generally used for the treatment of large fields and



**True Temper Cultivator  
Standard No. 20**

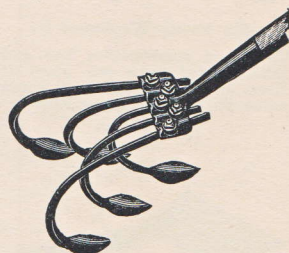
This is one of the handiest cultivators made. It is regularly furnished with one double-end steel hovel, one moldboard plowshare with landside and one combined rake and sweep. All steel attachments are oil tempered and polished bright. Because of special patented shape of shank, attachments always set at the right angle whether used for deep or shallow work. Handles can be instantly adjusted to suit height of operator.



**Midget Invincible IGC M    "Junior" Invincible IGC 3    Invincible IGC 5**

**True Temper Invincible Cultivators**

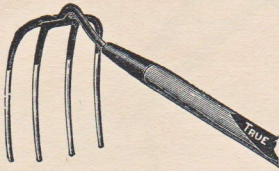
These are a group of very practical hand cultivators. The spread of the teeth can be adjusted to fit the work. The middle tooth can be removed to straddle the row. They are very sturdy tools for preparing the garden when planting and for cultivating between the rows after the plants have come up.



**True Temper Invincible Cultivator—IGC 5**

This is a close-up of our largest hand cultivator, which shows its substantial and easily accessible construction.





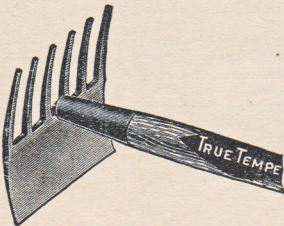
**True Temper Potato  
Hook—4GNR**

Many gardeners prefer to use the potato hook as a pulverizing tool. It is light and strong and conveniently curved for this purpose.



**Speedy Cultivator SC 4**

This is one of the easiest and fastest working weeders and cultivators made. It requires one-third less effort than any other type because the curve of its sharp teeth is such that they penetrate the soil with every drawing stroke without chopping. It is especially useful around and between shrubs and hedge plants.



**Six Prong Weeder—6 P**

This is a combination hoe and rake, forged from one piece of steel, and a tool that will serve many purposes in the garden.



**True Temper Scuffle Hoe—XGS**

Scuffle hoes are very popular for pulverizing the top surface of garden soil following rains.

can be applied to the home garden with equally good but slower results. When this form is used, 150 pounds should be applied to a 50 by 50 foot plot. Marl, ground shell, and basic slag are also suitable liming materials and should be applied in the quantity recommended for raw limestone.

Apply lime just after the garden has been prepared for planting. Spread it evenly over the surface and work into the top layer of soil with a rake. Do not use it in any form (except ground raw limestone) as a top dressing over or between growing plants. Do not use it with or immediately after spreading manure on the garden plot.

**Humus** is the name applied to the decomposed organic matter that is more or less common in all soils. Clays and sand are both deficient in humus. They can be made better soils for gardening by liberal applications of manure, litter, leaves, decayed sod and similar refuse.

Humus improves both the physical texture and fertility of the soil. Being coarse and porous, it helps divide and loosen up the soil particles and at the same time holds moisture. It contains an abundance of plant foods and for that reason is a valuable fertilizing agent.

Stable manure is the most practical source of humus for the gardener. A quarter of a ton applied to a plot 50 x 50 feet will be a generous treatment. Spread it evenly over the surface before spading. Then turn it into the soil and mix it as thoroughly as possible with the soil while preparing the land for planting.

Rye, clover, vetch, buckwheat and a large number of other crops, are grown



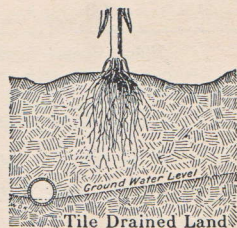
and plowed under to supply organic matter. They are called "green manures" when used for this purpose. Such plants are generally sown in the Fall after the garden has been harvested. They are allowed to make what growth they can through the milder portions of the Winter and plowed or spaded under in the Spring.

**Drainage.** Deep spading, thorough cultivation, and generous use of manure make the simplest method of draining a heavy garden soil. Where surface water collects in puddles after rains, a ditch will be necessary to carry the water away as quickly as possible.

Continuously wet, cold soils must be sub-tiled in order to dry them out and let them have a chance to warm up. The lines of tile should be placed  $2\frac{1}{2}$  to 3 feet deep. They may follow the natural "lay of land" or be arranged in two or three parallel lines 20 or 30 feet apart, connecting at the lowest end of the plot. The outlet must be low enough to permit the lateral lines to empty out quickly.

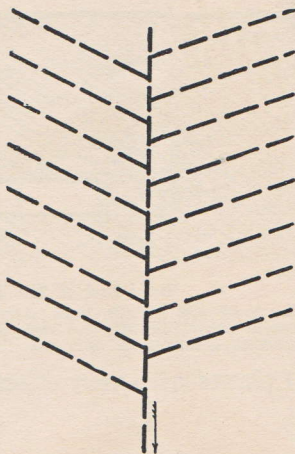
Proper drainage permits a deeper layer of top soil and enables plants to increase and deepen their root systems. The soil becomes firmer, permits a better circulation of air and is much warmer. The success of your garden will depend upon its drainage. Expense for this advantage will be amply repaid in an abundant harvest.

**Fertilizers.** Stable manure stands first in the list of garden fertilizers. It can rarely be applied too heavily for good results. A quarter to a half of a ton for the average home garden 50 feet square is recommended, and a ton that is thoroughly mixed with the soil when spading will prove to be an excellent treatment.



#### Roots Following the Water

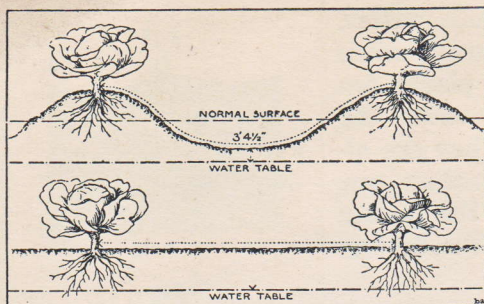
The upper picture shows the shallow root system developed by plants in wet soil. As the ground water level drops in Summer the roots are left without sufficient moisture for growth. Proper tile drainage maintains better moisture conditions in the upper layer of the soil which encourages deep rooting.



#### Herringbone Tiling

Parallel rows of tile leading to a main outlet are usually the most satisfactory method of tiling home gardens.





#### Ridge Versus Level Planting

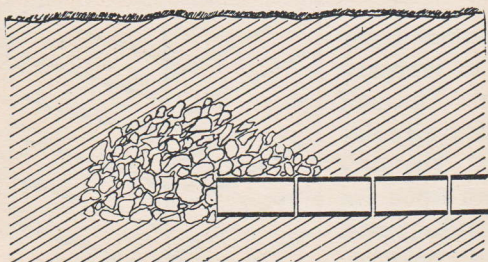
When heavy and wet soils cannot be conveniently drained by tiling or ditching, the ill effects of too much water can be prevented by ridge planting. In normally moist soils level planting is preferred.

ly helpful if made just before a shower during which they become dissolved and are thoroughly distributed in dilute form throughout the soil.

A compound labeled "3-7-4" (meaning 3% ammonia, 7% phosphoric acid, 4% potash) will make a good garden fertilizer. This should be applied at the rate of one pound to thirty or thirty-five square feet and worked well into the top three inches of soil. A second application of fertilizer consisting largely of phosphoric acid and potash can be made during the middle of the growing season as a top dressing.

A very effective stimulant which can be applied to growing plants in flats or in the garden can be made in the form of a liquid manure made by leaching stable manure with water. The common practice

is to fill a water tight barrel or a cask half full of stable manure and then filling the barrel with water. This mixture should be stirred with a long board or paddle on each of the next four or five days after which it should be allowed to settle. The top solution is then ready for use and can be applied liberally to the roots



#### Head End of Tile Lines

The head end of tile lines should be protected by several shovelfuls of loose rock or brick bats. This prevents entrance of dirt into the drainage system.

of plants with very effective results.



# Planting and Care of the Garden

When sowing seeds in the open, use a garden line to insure straight rows. Appearances, while important, are secondary to the convenience with which straight rows can be cultivated. This is especially true if a wheeled cultivator is used.

Depth of planting naturally varies with the kind of seed and soil. The age old rule "twice the depth of the seed" is a good one to follow under favorable conditions. Directions for the proper depth of planting are usually given on the packets of seed obtained from seedsmen. Small seeds should be given very little covering. Seeds are sown deeper late in the season or in a dry soil, than they are earlier in the season or in moist soil. In the same way, muck and sandy soils require deeper planting than heavy clays.

Use the True Temper Warren Hoe for making the seed drills. All the points and both edges of this tool are sharp, making it extremely useful for many purposes.

Stretch the garden line close to the ground at proper distance from the last row planted. Open the seed furrow with the tip of the Warren hoe, and sow seed from the mouth of the seed packet, distributing them as evenly as possible over the entire distance. (The seed will fall much thicker than the plants should be allowed to stand, but the seedlings must be thinned from time to time.)

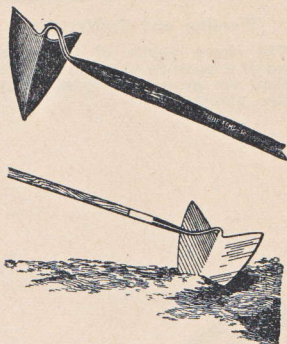
Just as soon as the seed have been placed, close the furrow with the ears on the top of the Warren hoe. These will level the soil without disturbing the seed and after slight firming with a roller or smooth board, the work of planting is complete.

When planting in hills, make a shallow hole with a level bottom and space the seed to be planted several inches apart. This will give the seedlings an opportunity to grow without competition with their neighbors. It is then a simple matter to select the best of the plants for a permanent stand when thinning out.

**Machine Seeding.** The True Temper Standard hill and drill seeder shown on page 18 will prove much more satisfactory than hand sowing where the garden rows are long. It is not necessary to have a so-called "large garden" to justify the purchase of such a tool, because the satisfaction of having evenly planted, straight rows, and the saving in seed, will more than repay the invest-

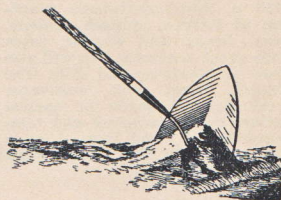
## True Temper Warren Hoe—W7

The Warren Hoe is remarkable for the great number of uses to which it can be put in both field and garden. Four of these are illustrated below.



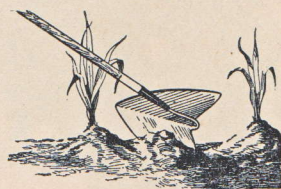
**Drilling**

The pointed tip of the Warren Hoe is useful in opening seed drills to any desired depth. It automatically places the soil on both sides of the row where it can be conveniently returned to the drill.



**Covering Seeds**

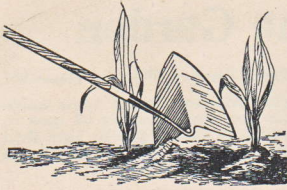
When inverted, the ears of the Warren Hoe draw earth from the sides toward the center of the drill.



**Hilling**

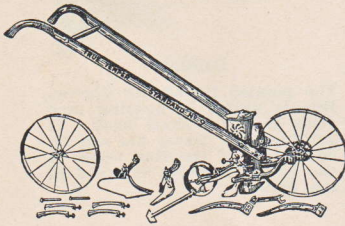
The flat side of the Warren Hoe is very suitable for hilling seedling corn or other small plants in the garden.





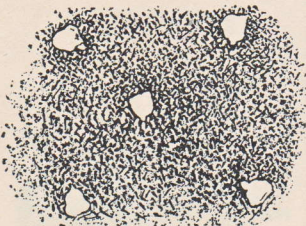
#### Weeding and Cultivating

The sharp points of the ears make it possible to remove weeds that are growing very close to the plants.



#### True Temper Combined Cultivator and Seeder

This complete wheel tool will drill a thin, continuous planting of lettuce, spinach, onions, peas, beans and similar seeds with great accuracy. It will also drop in evenly spaced hills. The shovels, hoes and cultivator teeth are all made of special carbon steel, hardened and tempered in oil, and ground to a bright polish that will work well in any soil.



#### Hill Planting

When planting several seeds in the same hill, place five or six seeds far enough apart to insure plenty of room for growth of each plant.

ment. The advantages of planting at uniform depth and at uniform distance with the proper light or firm covering required by the individual seed are obvious to the experienced gardener. They result in a more uniform stand with less thinning and transplanting than by any other method of planting.

When transplanting seedlings from flat, hot-bed or cold frame to the open garden, use the True Temper Garden Trowel. Plants that have been grown in individual bands or pots can be set out just as soon as the weather is warm, danger of frost is past, and the soil has been prepared. Open bottom bands can be buried in the garden without removing the plant. Small pots are easily shaken out by turning over and striking the edge upon some solid object.

Seedlings taken from flats or from the seed bed and being moved to their permanent location in the garden, can best be handled with our True Temper Garden Trowel. As much of the soil about the roots should be moved as will adhere to them. Three or four trowelfuls of earth should be removed at the place in the garden where the plant is to be set. Very fine top soil, preferably that taken from a compost heap, if one has been made, should be placed over the bottom of this shallow hole.

The seedlings being transplanted should next be placed, being held upright by the left hand while the roots are being spread out and the soil which was taken from the hole, replaced around the plant. Each plant should be copiously watered after transplanting, then protected from the drying action of sun and wind for several days.

Most writers advise sprinkling just before transplanting in order to settle the soil about the root systems and keep the plant turgid. However, many successful gardeners refrain from watering seedlings about to be moved, for three or four days before transplanting. This will harden the plants and make them more responsive to the water supplied in the new location. They recover more quickly and make a better growth than when transplanted after wetting.

Protection against frost should be given tender plants until all danger is over. If there is even a remote possibility of frost on a clear cool night late in the Spring—remember an ounce of prevention is always better than a total loss.

As mentioned above, seedlings transplanted to the open garden should be protected against the



drying action of wind and sun for several days after being transplanted. The ordinary plant protectors used for frost protection will serve this purpose very well. But covering with an inverted flower pot, berry box, or even a piece of newspaper weighted at the corners to prevent being blown away, will serve as a satisfactory guard against sun and wind.

**Garden seed** should be purchased from reliable seedsmen in the original package of the grower, to insure choice plants and a successful garden. It is not difficult to do this because the seeds of well known producers are distributed in every locality in the country. There seems to be considerable trafficking in old and unreliable seeds by unscrupulous dealers. Avoid the purchase of such seed, which cannot possibly produce satisfactory plants.

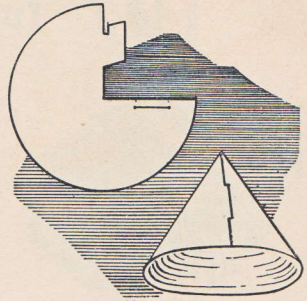
**Compost heap.** "Nothing in the way of vegetable matter should be wasted about the farm or garden. All tops, cuttings, weeds and leaves should be piled at one place and covered with soil. If rotting manure is available, this should be from time to time added to the heap. In the Spring, this pile will have become converted into the most desirable potting and garden soil." John Hunter, Sterling, N. Y.

## Cultivation and Watering

**Surface cultivation** can be done effectively with our True Temper Garden Hoe or Rake. The object is twofold, first, the preparation of a fine surface mulch which prevents loss of water and aids in the circulation of air; and second, it up-roots and kills grass and weeds that are ever competing with the cultivated plants for water, food and light.

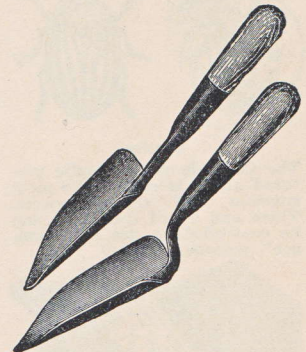
**Sprinkling** should be done thoroughly when done and always in the evening. Wet the soil four or five inches deep and then allow it to dry out fairly well before watering again. Many good gardeners prefer to irrigate the garden plot by removing the nozzle from the hose and permitting the water to run between the rows for an hour or two.

Just sprinkling the top layer of soil does no good—in fact it does great harm by stimulating the development of feeding roots in the top layers of soil where there is great danger of their being burned during hot and dry periods. It thus prevents the growth of a deep root system that enables the plant to withstand prolonged dry weather.



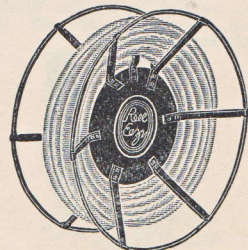
**Plant Protectors**

Protectors of paper or other suitable material can be had at every seed store.



**True Temper Garden Trowels—  
Nos. SST and DST**

True Temper Trowels will stand many years of hard use. They are forged from one solid piece of steel.

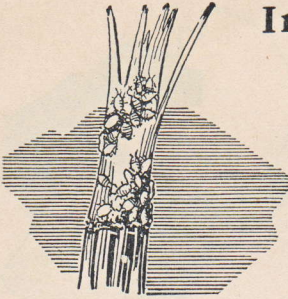


**Reeleezy Hose Reel**

The Reeleezy Reel is an exceptionally light and inexpensive hose reel. The protection of the garden hose which this reel affords will more than pay for its use.



# Insect Pests and Plant Diseases



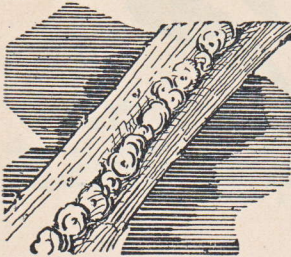
**Plant Lice**

The aphid or plant louse is typical of insects which injure plants by sucking their juices. These can be killed by use of "contact" poisons.



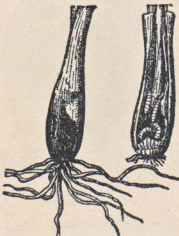
**Beetles**

The Colorado potato beetle pictured above is one of the most common leaf eating insects. These and all of their type can be controlled by use of "stomach" poisons.



**Scale Insects**

Because of the hard protective scale which covers these insects they can only be removed by the use of strongly corrosive solutions applied during the Winter when the leaves are off the trees and shrubs.



**Root Maggots**

Insects which infest the root systems of plants are difficult to control. Kerosene and sand, when applied about the stems, prevent adult flies from laying eggs on plants.

A brief description of the general types of destructive insects and diseases is all that can be given in this limited space. Evidences of their presence and work must be recognized as quickly as possible, so that steps can be taken immediately to prevent their spread.

**Biting or chewing insects** such as beetles, caterpillars, grasshoppers, and the like, can best be controlled by the application of poisons to the plants upon which they feed. Arsenate of lead, hellebore, Paris green, Pyrethrum are a few of the poisons commonly used.

**Sucking insects** such as aphids, weevils, leaf hoppers, etc., insert their beaks into the leaves, stems or fruits and suck the plant juices. Hence "stomach" poisons applied to the surface of the plant will not kill them. They must be killed by use of **contact poisons** such as tobacco solutions, sulphur dust, soap and oil preparations. Scale insects that develop protective coverings over their back while sucking the sap are most easily killed by strong corrosive solutions, such as a concentrated lime-sulphur mixture. The latter must be applied during the late Fall or Winter when the foliage is off the plants.

**Root and stem diseases** are most commonly caused by soil parasites and are often controlled by soil sterilization. Such treatment is only practical on very limited areas, but the average garden plot could easily be treated with formaldehyde solution if the circumstances warranted it.

**Fruit, foliage and twig diseases**, like rust and mildew, are generally controlled by sprays or dust of mildly poisonous preparations. Bordeaux mixture, lime sulphur and sulphur are most commonly used for this purpose. Wet or cloudy weather usually favors diseases of this type so that they are exceptionally difficult to control while such conditions prevail. On the other hand, bright, warm and sunny weather is more effective in preventing their development than any artificial preparations that might be used.

## "Stomach" Poisons for Chewing Insects

### (1) Lead Arsenate

When mixed with water for use as a spray, add one ounce of lead arsenate powder (or two ounces of paste) to a gallon of water. Apply generously to both upper and under surfaces of leaves and stems.

If it is preferred to dust the poison onto the plants, mix a half pound of powdered lead arsenate with an equal amount of flour or lime, and dust over the plants with a blower or through a sieve, preferably when the plants are wet with dew or rain.

### (2) Paris Green

Mix a half ounce of Paris green and an equal amount of freshly slaked lime with enough water to form a thin paste. Stir this paste into three gallons of water and apply with a sprayer or sprinkle over plants with a brush.

Dry Paris green can be mixed with twenty-five parts of air slaked lime or gypsum and used as a dust.



### (3) Hellebore

Preferred for use on currants, pears and many edible portions of plants because it is not so poisonous to man and loses its strength within a few days. When used as a powder, it should be diluted with four to six parts of lime or flour. If mixed with water for spraying, add one ounce to two gallons of water.

### (4) Poison Bran Bait

Mix one ounce of Paris green with  $2\frac{1}{2}$  pounds of wheat bran. Then put one half pint of molasses or syrup in a quart of water. Pour the liquid slowly with continuous stirring, into the dry Paris green-bran mixture to form a damp, coarse crumbly mass called "bait." If too wet it will not attract worms. Place small pieces of the bait along the rows of plants in the evening.

### "Contact" Sprays for Sucking Insects

#### (5) Nicotine Preparations

Commercial products contain about 40% nicotine sulphate. They should be diluted according to the directions printed upon the package.

A home made decoction can be prepared by soaking one pound of tobacco leaves or stems in one gallon of water for twenty-four hours.

Tobacco dust is highly recommended for the control of plant lice. Dust the plants in the early morning at the first appearance of the insects.

#### (6) Kerosene Emulsion

Prepare a stock solution by dissolving  $\frac{1}{4}$  pound of whale-oil soap in a half gallon of boiling water. When thoroughly dissolved, remove from the fire and add 1 gallon of kerosene. Stir vigorously until the solution becomes creamy in consistency. This should be diluted with water to prepare the proper strength recommended for each particular type of insect.

4% solution add	$\frac{1}{2}$ pt.	of stock solution to 1 gal. of water
7% solution add	1 pt.	of stock solution to 1 gal. of water
12% solution add	2 pts.	of stock solution to 1 gal. of water
15% solution add	$2\frac{1}{2}$ pts.	of stock solution to 1 gal. of water

#### (7) Soap Washes

Whale-oil or fish-oil soaps are frequently used in making spray preparations that are very effective against aphids or soft bodied larvae. Dissolve 2 ounces of soap in a gallon of boiling water—allow to cool and apply with a spray pump.

#### (8) Pyrethrum

This poison kills insects by suffocation or by contact but is not poisonous to man. May be used as a dust, either pure or diluted with two parts of flour. Also used as a spray which may be prepared by dissolving 1 ounce of Pyrethrum in one or two gallons of water. Allow to stand a day before using, to insure complete solution.

### Repellents

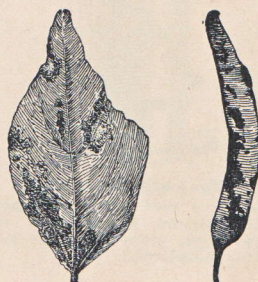
#### (9) Dusts

Lime and tobacco dust in equal parts, air slaked lime, or road dust will repel the attacks of flea beetles and many other leaf eating insects if applied at frequent intervals.



The Black Leg of Cabbage

Many diseases of plants infest the root system and either destroy the young roots, girdle the stem, or clog up the sap ducts so that the upper portions of the plant wilt and die from lack of water.



The Bean Blight

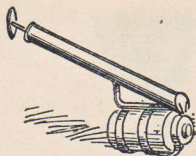
Many diseases attack both leaves and fruit of plants. They not only cause severe injury by destroying the leaves but also render fruit unusable.



Late Blight of Potato

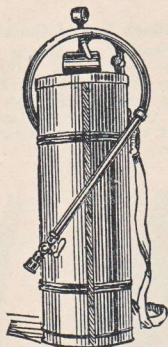
This disease affects leaves, stems and tubers. It is only controlled by frequent spraying with protective solutions.





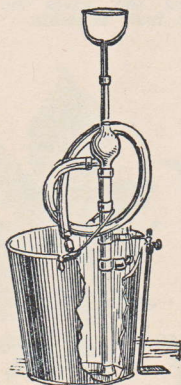
**Hand Atomizers**

These are very inexpensive sprayers which can be used effectively to apply poisons and protective solutions to shrubbery and garden plants.



**Knapsack Sprayers**

These are used where considerable pressure is necessary to spray trees, vines and other tall plants effectively.



**Bucket Spray Pump**

A very popular type of sprayer where solution must be constantly agitated while being applied.

### (10) Kerosene and Sand

Root maggots and many other root infesting worms may be controlled by spreading small quantities of this mixture about the base of plants in danger of attack. Pour one cupful of kerosene over one bucket of dry sand; stir well and distribute in small quantities.

### (11) Phenol Emulsion

Dissolve  $\frac{1}{4}$  pound of laundry soap in a gallon of hot water. Add, while still hot,  $\frac{1}{4}$  pint of crude carbolic acid, stirring while pouring until the mixture thickens to a creamy consistency. Dilute this stock solution by adding one-third pint to each gallon of water at the time it is to be used. Soak the soil around the plants every ten days until root maggots have disappeared.

### (12) Fumigants

Tobacco fumes are extensively used in green-houses or under small, tight vessels. The latter method will prove very effective for ridding house plants of aphids, white fly or thrips. Tobacco or Nicotine Paper, purchased at any reliable store, will be found to be the most convenient method of generating tobacco fumes.

## Spray Solutions for Leaf and Fruit Diseases

### (13) Bordeaux Mixture

This effective fungicide may be purchased in a number of very satisfactory brands. Commercial preparations of powdered and paste mixtures are on sale at every seed and hardware store. Some of these contain proper proportions of lead arsenate or other poisons and require only the addition of water in accordance with directions printed on each package, for immediate use in the control of many diseases and chewing insects.

### (14) Lime-Sulphur

This preparation is also available in concentrated form at all seed and hardware stores. Full directions for proper dilution are usually given on each can or bottle and should be followed exactly.

### (15) Hydrated Lime and Sulphur

This preparation gives good results in controlling diseases of tender plants that are injured by an application of the lime-sulphur mixture mentioned above. Mix two ounces of hydrated lime with 2 ounces of sulphur flour; pour one pint of boiling water over the mixture, stir vigorously for five minutes, and when cool dilute to a volume of one gallon of solution. This should be used immediately.

## Garden Sanitation

Both insects and plant diseases may be controlled to a very great extent by burning all rubbish and decayed plant remains at the end of each season; by changing the location of each kind of plant each season; by using only the best grade of seeds and plants that are free from infections; by Fall spading or plowing to prevent wintering over of eggs and disease germs in the soil.



## Approved Remedies for Common Insects and Diseases

The remedies described on the preceding pages are recommended for the control of specific pests and diseases by means of the numbers given in the following chart:

### Asparagus

- Beetle—(1) (2) (3)
- Rust—(13) Use rust resistant varieties when replanting.

### Bean

- Pot Spot—(13) Avoid entering bean patch when plants are wet with dew or rain. Plant only perfect seed.

- Blight—(13) Use clean seed—select disease-free pods for a supply of seed for next season's planting.

### Bean Fly—(10).

- Weevil—Place seed in an oven heated to 120° Fahrenheit for a half hour. Put a pan of water in the oven also to increase humidity during the treatment.

### Cutworm—(4).

### Beet

- Blister Beetle—(9).
- Root Maggot—(10).
- Aphis—(5).
- Thrips—(5).

### Cabbage

- Black Leg—Immerse seed for 30 minutes in solution of corrosive sublimate (1 tablet to a pint of water). Prepare the solution in a glass or earthenware vessel.

- Black Rot—Rotate plants to new sections of the garden.

### Aphis—(5).

### Maggot—(10).

### Worm—(1) (2) (3).

- Club Root—Apply ground limestone in liberal quantities to entire garden.

### Carrot and Celery

### Caterpillar—(1) (2).

### Looper—(1) (2).

- Leaf Spot—(13) Spray every ten days.

### Webworm—(1) (2).

### Corn (Sweet)

- Ear Worm—Dust dry "flowers of sulphur" during dry and hot weather, preferably in the early morning when plants are wet with dew.

### Root Aphis—(11).

### Maggot—(10) (11).

### Cucumber

### Leaf Spot—(13).

### Wilt—(13).

- Mildew—(13) Be especially certain to apply Bordeaux to under side of leaves.

### Striped Beetle—(9).

### Eggplant

### Aphis—(5).

### Cutworm—(4).

### Flea Beetle—(7) (9).

### Potato Bug—(1) (2).

### Lettuce

### Aphis—(5).

### Mildew—(13).

- Drop—Pull and burn diseased plants as soon as they are noticed. Plow garden patch in Fall to rid soil of this disease.

### Leaf Rot—(13).

- Damping-off—Keep young seedlings dry and hot bed well ventilated.

### Melon

### Leaf Spot—(13).

### Aphis—(5).

### Wilt—(13).

### Mildew—(13).

### Caterpillar—(1) (2).

### Leaf Blight—(13).

### Flea Beetle—(1) (9).

### Striped Beetle—(9).

### Onion

### Cutworm—(4).

### Downy Mildew—(13).

### Maggot—(10) (11).

### Thrips—(5).

- Smut—Dust plants with flowers of sulphur during hot weather.

### Parsnip

### Beetle—(1) (2) (9).

### Caterpillar—(1) (2).

### Webworm—(1) (2).

### Pea

### Aphis—(5).

### Weevil—See directions for bean weevil.

### Blight—(13).

### Mildew—(13).

### Potato

### Aphis—(5).

- Black Leg—Soak seed potatoes for two hours in solution— $\frac{1}{4}$  pint of formaldehyde in six gallons of water.

- Blight—(13) Repeat sprayings every ten days while tops are growing. Hill up high when tops begin to die.

### Potato Bug—(1) (2).

### Cutworm—(4).

### Flea Beetle—(1) (2) (9).

### Grub—(11).

- Scab—Same treatment recommended for "Black Leg." See above.

### Worm—(1) (2).

### Radish

### Maggot—(10) (11).

### Aphis—(5).

### Spinach

### Aphis—(5).

### Squash

### Leaf Spot—(13).

### Wilt—(13).

### Beetle—(1) (2).

### Mildew—(13).

### Tomato

### Blights—(13).

- Damping-off—Keep plants as dry as possible when the disease makes its first appearance.

### Flea Beetle—(1) (2) (9).

### Fruit Rot—(13).

### Mildew—(13).

### Leaf Spot—(13).

### Worm—(1) (2).

- Wilt—A soil trouble that can only be prevented by planting next crop in another section of garden.

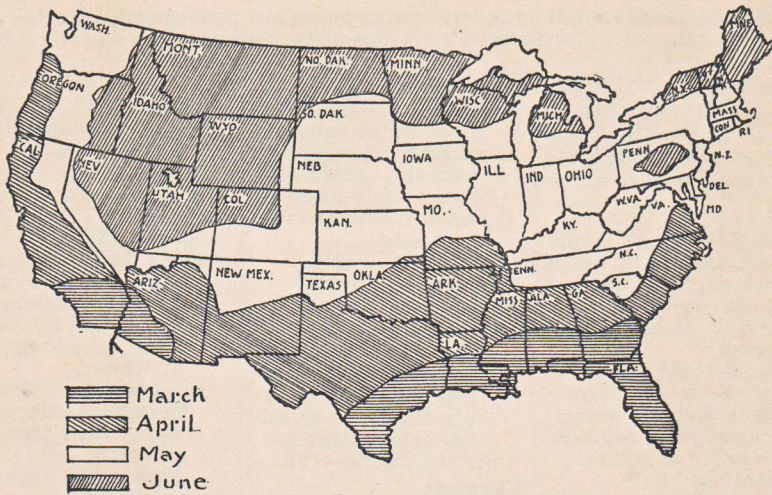
### Turnips

### Aphis—(5).

### Maggot—(10) (11).



# How Soon to Plant



**Last Killing Frosts in the United States**

The country is divided into four sections in the above map, each representing the month during which the last killing frost occurs. Earliest sowing of hardy plant seeds may be made during that month. Tender seedlings should not be planted out until the last part of the month indicated.

**How soon may we plant this or that?**—is one of the most common questions that the seedsmen hear in the Spring. Planting time depends upon the danger of killing frosts and the condition of the soil. Last killing frosts are carefully recorded by the Weather Bureau and this information is used as a basis of the map shown above.

The dates used in the Vegetable Planting Chart on pages 28 and 29 are based upon the relative earliness of the planting season in the white area shown above. South of that, planting may be done twenty to thirty days earlier, in Southern California, around the Gulf of Mexico, and in Florida, sixty days earlier; in the northern tier of states and the Rocky Mountains, thirty days later.

There is a wide latitude here for personal experience within a community and for good judgment, particularly if plenty of protective coverings are available for immediate use. Beware of cool, clear and windless nights along the end of the period indicated above for killing frosts. The very season you have an exceptionally fine stand of young plants may be the season you will suffer an unexpectedly late frost.

The abundance of rainfall and the sub-drainage of your own garden soil are also factors that influence earliness of planting. **Never work a clay soil while it is wet.** No type of soil is in condition for spading or planting unless a handful will crumble between the fingers. Be patient—plant a little later than your more anxious neighbors and you will find a better start and warmer sunshine during the seedling stage will put most plants far ahead of those that were stunted in their early struggle with the elements.



# Pruning

To the average gardener there are four good reasons for pruning ornamental plants about the home. These are:

First: To maintain symmetrical or typical shape of the plant.

Second: To remove injured, diseased and dead parts.

Third: To encourage the development of more and larger blooms.

Fourth: To artificially control the shape of the plant for reasons of appearance.

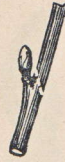
The fundamental principles of pruning trees and shrubs are few and simple.

While the proper time to prune each kind of plant is too large a subject to treat here, as a general rule trim trees in the Winter before the sap starts to run, and prune most blooming shrubs after the flowering period is over.

**Tip Pruning.** When plants or individual branches of them are tip-pruned, a sharp knife or pruning shears should be used. The cut should be clean and at an angle across the twig, and just above a healthy bud, without tearing or removing the bark on the lower side of the cut. To do this properly, the shears or knife should be very sharp.

When the cut is made near a vigorous bud, the new shoot which develops there in the Spring will have a tendency to make a straight growth and within a season or two entirely hide the prune-cut.

When such care of cutting at an angle above a healthy bud is observed, the wound will callous very quickly, and the active growing layer which is just below the bark will heal over the wound before withering or decay can take place.



**Angular Tip-Prune**

Note the location of the angular cut indicated for 'small twigs, the tips of which are to be pruned back. This cut should be made with a sharp knife or shears at an angle just above a healthy bud.



**Branch Pruning**

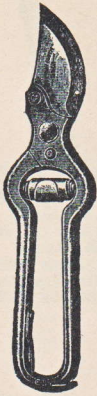
Always cut a branch over three-eighths inch in diameter at the fork or crotch at its base as indicated here by the dotted line.



**Large Branch Pruning**

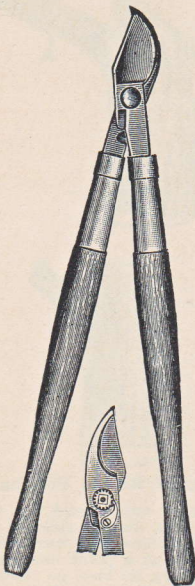
The saw cut should be made from the lower side of the branch almost half way through the limb at a point one foot or more from its base as shown at "A." Next saw down from the top at a point slightly outward from the first cut as shown at "B." When the branch has been removed it is very easy to get the stub off as indicated at "C" without tearing the bark on the main trunk.





Pruning Shears

This is a very convenient tool for pruning tips of trees and shrubs.



Grape Pruner

This heavy pruning shears with long handles is especially adapted to the pruning of grapes and woody fruit, but will be equally suitable for the pruning of barberry hedge.

**Branch Pruning.** When removing branches that are more than three-eighths inch in diameter, it is absolutely necessary that the cut be made at the fork or crotch at the base of the branch.

Never "lop off" a branch of this size at any other place than a fork, because the stub which is left will not heal over but will soon decay and endanger the entire limb or even the trunk of the tree or shrub.

When the branch is removed in the manner shown on the preceding page, the active growing layer of tissue in the healthy branch will soon grow over and cover the wound.

When removing heavy branches from trees, extra precaution should be taken to cut the branch off a foot or more from the fork or crotch and to make the first cut from below as shown in the illustration in order that the weight of the leaves and twigs will not break the branch when the cut is two-thirds of the way through and then tear off the bark on the lower side. If the bark is injured below the cut there will be considerable delay in healing over the wound. In many such cases the healing never takes place before decay has set in.

This danger can be entirely overcome by making the first cut about half way through *from the lower side* and a foot or more from the fork. The second cut should be made from the top just a half inch or an inch outward from the first cut. When this approaches the first cut, the limb will fall and leave a short stub for later removal, *but without tearing the bark on the lower side of the branch.*

When this is done, it is a very simple matter to remove the stub at the fork or crotch without any danger of tearing the bark, since the tremendous weight of the branches and leaves has been removed. Then if the saw cut is carefully trimmed



with a sharp knife and the wound painted with an oil or asphalt paint to within a half inch of the bark layer, healing will start at once and the wound eventually be covered over with a new growth of bark. If the wound is large, it should be repainted at six month intervals while healing is going on, in order to protect the exposed wood from decay fungi and bacteria.

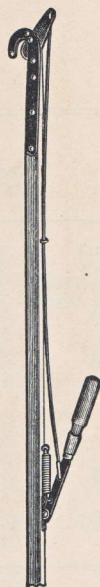
**Hedges.** Hedges that are ready for their first shaping often present a difficult problem to the novice. A little preliminary care will prevent many an ill advised cut.

First establish the height the new hedge will take by driving a stake at the corner or end of the hedge and at one side so that the top of the stake is at the height the trimmed hedge is to be. Drive another stake at the opposite end or corner of the hedge, and on the same side so that its top is also at a point equivalent to the desired height the end of the hedge will take. Stretch a line tightly from the top of one stake to the other.

Place two more stakes on the other side of the hedge opposite the first stakes with tops at the same height and stretch a line between these. If a driveway or walk passes through the hedge, let the line extend across the opening in order that the pruning may be at the same height on both sides of the walk or driveway.

It will then be simple to cut back the tips of the twigs and branches to a line that will be uniformly straight between the guide lines. Trimming the vertical sides of the hedge can also be made easy by using the same lines as a guide for the up and down trimming.

**Dead Branches.** These should be removed from any and every plant regardless of the effect it may have upon the shape of the plant. Some plants, such as roses, produce the best blooms upon shoots that are one year old and for that reason it is advisable to cut out when trimming the dead branches that are over one year old as much as possible. Other shrubs, such as spirea, bloom from the new wood that is produced at the ends of twigs and branches, therefore it is desirable to permit this plant to continue its natural growth and shape except, of course, the removal of dead branches, because too much tip-pruning is certain to reduce the number of flowers produced.



**Tree Pruner**

This pruning shears on the long extended handle is extremely desirable for use in orchards and in pruning ornamental trees about the home.



# VEGETABLE PL

QUICKLY MAT

Name	Seed Required for 50 ft. Row	Time to Start Seed in Hotbed or Greenhouse	Time to Transplant Seedlings to Garden	Time to Sow Seed in Open Garden	Rows Apart (in feet)	Plants Apart in Row (In.)	Depth of Plant- ing (In.)	Degree of Hardiness
Beans—(Bush)	1½ pt.	.....	.....	April-May	1½-2	4	1½	Tender
Beans—(Pole)	1½ pt.	.....	.....	May	4	36	1½-2	Very Tender
Beans—Lima (Bush)	1½ pt.	.....	.....	May 15	1½-2	4	1½-2	Very Tender
Beans—Lima (Pole)	1½ pt.	.....	.....	May 15	4	36	1½-2	Very Tender
Beets (Early)	1 oz.	February	April	April	1½	4	1½	Hardy
Beets (Late)	1 oz.	.....	.....	June-July	1½	4	1½	Hardy
Carrot (Early)	1½ oz.	.....	.....	April	1½-2	2-4	1½	Hardy
Carrot (Late)	1½ oz.	.....	.....	July-August	1½-2	2-4	1½	Hardy
Chard (Swiss)	1 oz.	.....	.....	April	1½	6-8	1½	Hardy
Cress	.....	.....	.....	April-May	1-1½	2-3	1½	Hardy
Dill	.....	.....	.....	April	1½	4-6	1½	.....
Endive	¼ oz.	.....	.....	April	1½-1½	8-12	1½	Tender
Lettuce	¼ oz.	Feb.-Mar.	April 15	April	1½-2	8-12	1½	Hardy
Mustard	1 oz.	.....	.....	April	1½-2	8-10	1½	Tender
Onions (Sets)	1 qt.	.....	.....	April	1-1½	2-3	1½	Hardy
Peas	1 lb.	.....	.....	April	6-8	6	2	Hardy
Potato (Early)	4-5 lbs.	.....	.....	April	Double Row	6-8	4	Hardy
Radish	1½ oz.	Feb.-Mar.	.....	April	1½-2	1-3	1½	Hardy

ALL SEAS

Artichoke, Jerusalem	4-5 lbs.	.....	.....	April	3-4	24-36	4	Tender
Broccoli	¼ oz.	.....	.....	April-May	2½-3	24	1½-1	Hardy
Brussels Sprouts	¼ oz.	March	May	April	2½-3	18-24	1½	Hardy
Cabbage (Early)	¼ oz.	Feb.-Mar.	May	April	2-3	24	1½	Hardy
Cabbage (Late)	¼ oz.	.....	.....	May	2-3	24	1½	Hardy
Cabbage (Savoy)	¼ oz.	.....	.....	May	2-3	24	1½	Hardy
Cardoon	¼ oz.	Feb.-Mar.	May	.....	3	18	1½	Tender
Cauliflower	¼ oz.	Jan.-Feb.	May	.....	2-3	15	1½	Tender
Celeriac	¼ oz.	March	May	April	2	9	1½	Hardy
Celery	¼ oz.	Feb.-Mar.	May-June	April	2-3	6-8	1½	Hardy
Chicory	.....	.....	.....	April	1-2	10-12	1½	Hardy
Collards	¼ oz.	Feb.-Mar.	.....	May	3	24-36	1½	Hardy
Corn (Sweet)	1½ pt.	.....	.....	May	3	24-36	1	Tender
Cucumbers	1½ oz.	.....	.....	May-June	3-4	36-48	1	Tender
Egg Plant	¼ oz.	Feb.-Mar.	May	.....	3	24	1½	Tender
Kale (see Broccoli)	above)	.....	.....	.....	.....	.....	.....	.....
Kohl Rabi	¼ oz.	.....	.....	April	1½-2	8-12	1½	Hardy
Leek	1½ oz.	.....	.....	April	1½-2	4-6	1½	Very Hardy
Muskmelon	1½ oz.	.....	.....	May	3-4	36-48	1	Tender
New Zealand Spinach	¼ oz.	.....	.....	May	3	12-18	1½	Hardy
Okra	1 oz.	April	June	May	3	12	1½	Tender
Parsley	1½ oz.	.....	.....	April	1	4-6	1½	Hardy
Parsnip	1½ oz.	.....	.....	April	1½	4	1½	Hardy
Peppers	¼ oz.	Feb.-Mar.	May	May	2	24	1½	Tender
Potato (Late)	4-5 lbs.	.....	.....	May-June	3	6-8	4	Hardy
Pumpkins	1½ oz.	.....	.....	May	4-5	36-48	1	Tender
Rutabaga	1½ oz.	.....	.....	April	2½	8-12	1	Hardy
Salsify	1 oz.	.....	.....	April	1½	4	1½	Hardy
Spinach	1 oz.	.....	.....	April	1-1½	6	1½	Hardy
Squash	1½ oz.	.....	.....	May-June	4-5	48-60	1½	Very Tender
Sweet Potato	50 roots	March	May-June	.....	3-5	14	3-4	Tender
Tomato	¼ oz.	March	May	.....	2½-3	30-36	1½	Tender
Turnip	1½ oz.	.....	.....	April	1½-2	3-4	1½	Hardy
Watermelon	1 oz.	.....	.....	May	8-10	80-90	1	Tender

PERENNIA

Artichoke, Globe	1½ oz.	Feb.-Mar.	May	.....	3-4	24	1½	Hardy
Asparagus	40 plants	.....	.....	April	1½-3	14	4-5	Hardy
Dandelion	1½ oz.	.....	.....	May	1½	8-10	1½	Hardy
Horseradish	50 roots	.....	.....	April	2	8-12	2	Hardy
Rhubarb	25 roots	.....	.....	May	2½-3	24	¾	Hardy



# ANTING CHART

## URING PLANTS

Successive Planting (Days Apart)	Days to Mature	Important Suggestions
14 days to July Season	60	Early plantings can be followed by Fall vegetables.
10 days to July Season	60	Longer bearing than above. Use poles 6-8 ft. long, plant 6 seeds per pole and [later thin to three.
14 days	40-70	Cultivate as for Bush Snap Beans above.
14 days	90	Plant and thin as for Pole Snap Beans above.
14 days	100	Late plantings for Winter use should use turnip varieties.
20-30	120	Before freezing, dig and store in cellar or pit.
14 days to Sept.	60-70	Hoe deeply and frequently—keep clean of weeds.
14 days to Sept.	35	Give plenty of water and keep soil well cultivated.
Fall use in June	100-120	Can replant until September for Fall and Winter use.
August	70- 90	Easily grown in Winter in greenhouse, hotbed or window box.
7 days	30- 40	Tie outer leaves over center bud when 6 to 8 inches long.
14 days	50- 60	Fertilize heavily—plant on rich soil and supply abundant moisture.
7-14 days	60	Can be grown in window boxes in Spring.
June for Fall	90	Till top soil frequently and keep free of weeds.
7-10 days	30	Do best in cool weather, so plant as early as possible.
		Apply fertilizer between rows several times during season.
		For Fall use long, white varieties.

## ON PLANTS

14 days	5-6 mos.	Plant 3 or 4 small tubers in a hill.
	4-5 mos.	Winter crop may be started in May.
	5-6 mos.	When small sprouts begin to appear—Cut large leaves off to favor sprouts.
	4-5 mos.	Fertilize and cultivate freely—Hill up slightly as growth progresses.
	4-5 mos.	Leaves bunched for blanching in early Fall.
	4-5 mos.	Never allow plants to become checked in growth.
	5-6 mos.	Blanching not required—Roots remain in ground until wanted.
	5-6 mos.	See "Vegetable Guide" for information on blanching.
	6-7 mos.	Then raised and transplanted in trench and covered with manure—After 4 to 5 [weeks ready for use.
June	3-4 mos.	Stands hot weather better than cabbage or kale. Grown widely in Southern States.
10 days to June	2-3 mos.	Deep soil and frequent cultivation makes best crop.
	2-3 mos.	Plant in low hills for perfect drainage while young.
	4-5 mos.	Grow best in well drained, warm soil.
	2½-3 mos.	Quite hardy and does well where cauliflower cannot be grown.
	3-4 mos.	Plant in open furrow 5 or 6 inches deep—Draw in earth as plants grow to level of [garden.
	3-4 mos.	Plant in hills, 10 to 12 seed, thin to 4 plants.
	3-4 mos.	Soak seed 2 hours in hot water.
June	3 mos.	Requires frequent cultivation until plants cover the ground.
May-June	3-4 mos.	Seed germinate very slowly—mark rows with radish seeds.
	4-5 mos.	Better flavored if subjected to early frosts.
	4-5 mos.	Top dress soil between rows when plants 6 inches high.
	4-5 mos.	Dig before hard freezing.
	4-5 mos.	Plant on hills and cultivate as for cucumbers.
	4-5 mos.	Pull roots before freezing, cut off tops and store in cellar.
	4-5 mos.	Dig roots in Fall or Winter as required.
	3 mos.	Apply nitrate of soda between rows to stimulate growth.
	2-4 mos.	Winter squash may be planted later and stored for use in moderately warm, dry [place.
	5-6 mos.	Dig when vines have been killed by frost.
June	4-5 mos.	Protect from frost when first set out in garden.
June-July	2-3 mos.	Crowding or weeds make poorly flavored roots.
	4-5 mos.	Top dress with fertilizer high in nitrogen and potash.

## L PLANTS

Aug.-Sept.	If crowns get too large after two or three years—divide and reset.
May-June	In northern states mulch asparagus to prevent heaving of the roots during winter.
Sept. (1st yr.)	Blanch by covering with straw or leaves.
	Tends to become rank weed—cultivate closely and root out volunteers.
2nd Spring	Keep blossom stalks cut back—flowers and seed exhaust plant.



# Vegetable Guide

This section will be devoted to concise directions for the proper cultivation of each of the more commonly grown vegetables. The **essential requirements** as well as the **most frequent mistakes** will be emphasized. Illustrations are used to show the most approved methods and the most useful tools for doing the work of gardening successfully.

**Directions for spacing in the row, distance between rows, quantity of seed, handling of seedlings and information given in the "Vegetable Planting Chart" on Pages 28 and 29 will not be repeated.** Kindly refer to those pages for that information. The "Vegetable Guide" will be devoted exclusively to the specific treatment recommended for each type of plant.

## Globe Artichoke

Plant seeds outdoors in seed bed as soon as the soil is warm and dry. When the plants have developed two or three true leaves, transplant to the section reserved for hardy plants. Globe artichokes do not do well in the northern part of the United States where zero weather is common in Winter.

You can replant the bed in the Fall by setting out the side shoots that develop from the base of old plants. Largest and most tender buds are grown upon younger plants. Remove buds regularly to hold back seed formation if plants are wanted to produce during the entire season.

## Jerusalem Artichoke

Tubers must be planted as soon as ground is warm and dry enough for working. Cut the larger tubers just as you would cut potatoes for planting, leaving two or three eyes on each piece. Cultivate as for corn and hill up toward the end of the Summer. The crop will be ready to dig any time after the middle of October. The tubers can be left in the ground until needed for use if covered lightly with straw to prevent freezing.

## Asparagus

Successful asparagus culture depends largely upon the preparation of the plant bed and the way in which the roots are placed in the soil. A loose, well drained soil is preferable but the heaviest clay can be converted into an ideal asparagus bed if the following directions are followed closely:

Dig a trench for each proposed row, 12-15 inches wide and 15 to 18 inches deep. If the subsoil at this depth is hard, spade it thoroughly with a spading fork. Put back part of the soil that has been removed, breaking up all clods and lumps, and mixing in a liberal quantity of rotted stable manure, to within 6 inches of the top.



Spread out the roots of each plant and place the root crown upon a small mound of earth, so that it is slightly elevated above the laterals. Cover with three or four inches of soil and manure and firm down well by tamping.

Such a treatment will leave a quantity of soil remaining at the edge of the trench. This is to be drawn over the plants as soon as they begin to develop. When all of this has been put back and the row is level or slightly higher than the surrounding garden, cultivate frequently and thoroughly for the rest of the season. In the Fall mulch with several inches of straw or manure to prevent heaving.

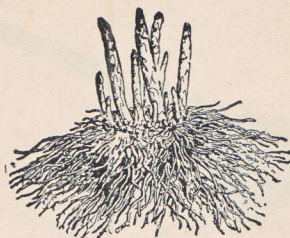
If blanched asparagus is desired, this can be produced by placing drain tile or an inverted flower pot over the growing shoots in the Spring.

**Insects.** Two kinds of beetles prey upon asparagus shoots and tops. In the small garden, hand picking into a can of kerosene is perhaps the most practical way of destroying them. Spray the tops once or twice during the Summer with lead arsenate solution.

**Diseases.** Asparagus rust was the most troublesome disease of former years. This can be now avoided by the use of rust resistant varieties, so be sure that roots you purchase in the future are of such strains.

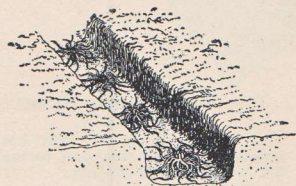
### Bush Snap Beans

Beans of all varieties are very sensitive to wet and cold weather. They respond to a light, well drained soil and thorough cultivation. Plant bush snap beans in drills two feet apart, seeds four inches apart in the row. Firm the soil over the seeds by tamping over a short smooth board, or by stepping lightly over the soil. Hill the rows slightly as soon as the plants make a good start.



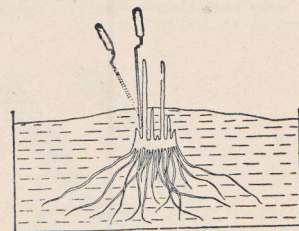
**Bearing Asparagus Root**

This illustration shows how edible asparagus shoots develop from the root crown of the plant.



**Trenching Method for Asparagus Planting**

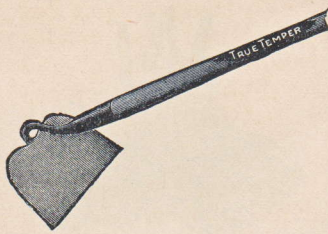
Note how the crown of the root is elevated above the lateral roots on the slight ridge which is made in the bottom of the trench. Loose soil is drawn over the plants to a depth of three or four inches, and then firmed down. The remainder of the trench is filled as soon as the young shoots begin to appear above surface.



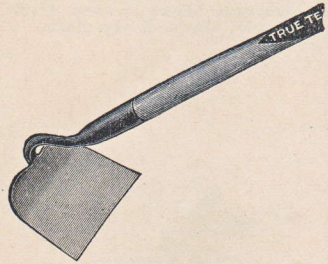
**Cutting Asparagus**

Unless asparagus is cut carefully there is danger of seriously injuring the root crown. Insert the cutting knife vertically alongside of the shoot, then by a sharp prying movement pass the tip of the knife through the shoot and withdraw the two together.



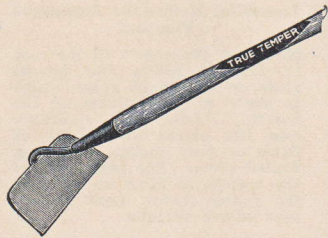


True Temper Garden Hoe—GO 7



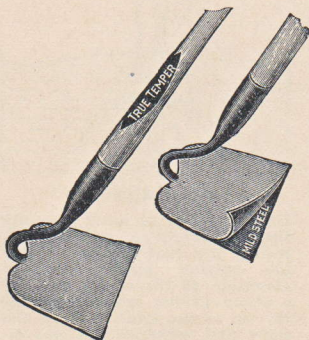
True Temper Smith Patent Hoe—S O 7

The curved blade of this hoe makes it a very fast tool to use for weeding and hilling.



Ely Corn Hoe—E C 7

This hoe has a thin steel blade which can be kept exceptionally sharp and for that reason makes a very easy cutting tool. This has been designed particularly for use in corn but would be a very satisfactory tool for gardens in heavy clay soil.



Self Sharpening Hoe—L E 7

Do not pick or cultivate bush beans while the leaves are wet from dew or rain. Such practice helps spread the bean "rust" over the newer leaves and pods, the latter becoming disfigured and undesirable for use.

### Pole Snap Beans

Plant pole beans in hills two or three feet apart each way. Place six to eight seeds in each hill but thin to four plants as soon as they have made a good start. Use poles that are six or seven feet long, incline those in the neighboring hills toward the center and tie them together with strong twine in groups of fours.

Because of the beneficial effect of special soil bacteria that produce root nodules on pole beans, it is advisable to replant such beans in the same place for several seasons. When this is done, a permanent trellis of stout posts and wire should be built. At the end of the season, strings and vines must be cut down and burned. A top dressing of stable manure should be applied and the place will be ready for replanting next Spring.

### Lima Beans

Bush and pole varieties of lima beans are grown in exactly the same way as similar types of snap beans. They are even more sensitive to wet and cold weather than the latter. Do not plant until the ground is well dried out and warm. In clay soils, it is advisable to place seed in the hill with the "eye" downwards, and to avoid covering too deeply. When planted in this way, seeds sprout and come up more quickly.

### Beets

Very early beets may be started in the hotbed or greenhouse in March and transplanted about May 1st. It is the more common practice, though, to plant in drills in the garden where expected to mature and thin to 4 or 6 inches. Separate varieties are recommended for hotbed and garden planting, so that you should make sure the seed you buy will best fit the plan in mind.



Beets are frequently planted close together in the row and not thinned until the leaves are four or five inches long. The tender plants with the young roots that have developed are pulled and served as "greens." In this practice, plants four or five inches apart are allowed to stand and mature a growth of beet roots which are later used when they reach suitable size.

Beets do best in cooler climates and for that reason are grown in southern sections only during the early Spring months. A deep sandy loam is most favorable to good growth, while abundant moisture is required for these (like all other root crops) if tender, succulent roots are to be grown.

Beets are easily injured by freezing. They should be dug and stored in a cool dry cellar, or outdoors in straw and soil covered pits such as those used for potatoes, sweet potatoes and other vegetables.

### Brussels Sprouts

Sow seed in outside seed bed or in garden after all danger of frost has passed. Transplant or thin rows to 15 or 18 inches apart. Cultivate thoroughly and frequently, because this (like all other members of the cabbage family) responds to thorough stirring of the soil.

Leaf rosettes or "sprouts" begin to form along the main stalk in the late Summer. Cut off most of the larger leaves at that time in order to favor development of the sprouts, making them large and tender. Frosts seem to improve their flavor, but continuous freezing weather will ruin the crop.

To hold them over as long as possible, dig up the stalks and transplant to cold frame or cellar, supplying enough water to roots to prevent wilting. Sprouts can then be plucked as needed for use.

### Cabbage

Early cabbage must be started in hotbed or greenhouse about February 15th. Sow seeds thinly in rows three or four inches apart and hold back during the first four or five weeks to produce short, stocky plants for transplanting.

Set out in garden row when danger of killing frosts has passed. They should be planted in a well manured, deeply plowed or spaded plot and frequently cultivated during the Summer.

Late cabbage are generally sown in drills in a well prepared seed bed. Seedlings are transplanted to the garden row as a succession crop, following early lettuce, radishes, or some other early maturing plants. When resetting, fill with water each hole that is to receive a seedling, set the plant in the moist earth and draw fine soil over the roots. Firm down well all around to make sure that the soil particles are closely pressed against the feeding roots.

They should be protected from hot sun and wind for the first few days by means of plant protectors, though cabbage is very resistant and usually recovers from wilting without unusual care.



*Insects.* A small black fly attacks cabbage seedlings in the seed bed. Frequent dusting with dry plaster or fine wood ashes will prevent their ravages.

The *cabbage louse* which infests the stems at the base of leaves can be destroyed by applications of Persian insect powder, kerosene emulsion and various tobacco compounds.

The *green cabbage worm* is best controlled by the use of a Paris green solution, sprayed over the outer leaves and stems. This can be done with safety because the heads expand by growth of the leaves inside the head.

*Diseases.* *Club Root* is a soil disease that can be prevented by thorough liming of the land. *Black rot* of the stems causes early wilting and death of the outer leaves. This disease is carried on the seeds and can be controlled by immersing the seeds for ten minutes in a corrosive sublimate solution.

### Savoy Cabbage

This is a curly leaved variety of the common cabbage, and it should be planted and cultivated in exactly the same way. Its fine flavor and tenderness recommend it for home raising where its quality will be appreciated.

### Cardoon

This is a rather uncommon vegetable but resembles globe artichoke in appearance. It may be grown as an annual or perennial, the leaves and central bud only being removed for use.

If wanted the first season, seeds should be planted in the hotbed or greenhouse and transplanted to the open ground as early as the weather permits. These plants require plenty of room for growth, and abundant moisture and fertilizer.

In the late Summer, leaves should be drawn together and the center blanched in the same way endive is handled. Plants can be removed to a dark cold frame or cellar for use during the Winter, or roots may be mulched with straw or manure for continued growth as a perennial.

### Carrots

Carrots, for rapid growth, do best in a deep loam soil that has plenty of moisture. The seeds are slow to germinate. Radish seeds are frequently mixed with them to mark the rows and to permit cultivation without molesting the carrot seeds. Young plants are very easily smothered by grass and weeds. For that reason thorough cultivation and frequent weeding are necessary.

Successive plantings to insure young roots throughout the Summer and Fall may be made every two weeks up to June 15th. The Winter crop may be sown as late as August and September. A light straw mulch will prevent hard freezing until mid-winter when all roots should be dug and stored in a cool cellar.

### Cauliflower

For early heads, sow seeds in hotbed or greenhouse and handle exactly as directed for early cabbage. It is not desirable to force



the seedlings to rapid growth, but preferable to produce strong healthy plants by giving moderate water and heat with free ventilation. Transplant a little later than cabbage seedlings because they are more susceptible to frost injury.

Late plants may be sown in a seed bed or in the garden row, either transplanting or thinning out, as the case requires, to 15 inches apart in the row. Give plenty of fertilizer, water and frequent cultivation during the growing period.

Protect the central "flower" from rain and sunlight as soon as it begins to form. The easiest way to do this is to tie a few of the larger outer leaves over the center of the plant with raffia or twine.

*Enemies.* The insects and diseases described under "cabbage" affect the cauliflower also. The same control suggestions apply here.

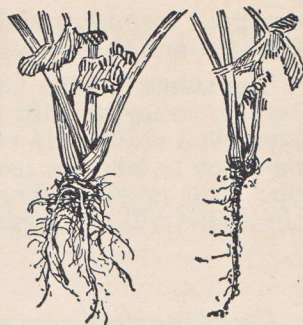
### Celery

This crop is very sensitive to climatic conditions and does best where warm days and cool nights with plenty of rain through the growing season, prevail. Care of the seed bed is the most tedious part of the work. Sow seeds for the early crop in the hotbed or greenhouse during March. Cover very lightly with sand and avoid heavy watering for fear of washing seeds away. Spray seed bed or flats with a fine mist or water through cheese cloth laid over the soil.

Shade while the plants are young, with cloth or lath screens. Transplant to two inches apart as soon as seedlings are large enough to be handled. Set in the garden row in May or early June. Cut back both tap root and leaves when transplanting. This stimulates development of feeder roots and helps the plant recover quickly from the check of moving.

Seed for the late crop may be sown in an open seed bed in April and transplanted to the garden in June. Precautions on watering mentioned above should be carefully observed.

Frequent surface cultivation is the best rule for celery. The plants need abundant moisture. A surface irrigation rather than



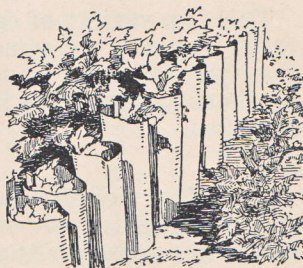
Effect of Transplanting on Root System of Celery

Celery is greatly improved by transplanting when young. The lateral root system is stimulated to great development by frequent moving, as is well illustrated by the plant on the left. Main tap root (right) grows deep if plants are not disturbed.



Blanching Celery with Soil

When blanching celery with soil great care must be used to prevent the dirt from falling between the stalks. Gather the stalks together in one hand before drawing up the earth.



Blanching Celery with Paper

Newspaper or heavier material is frequently used to blanch celery in the garden. Drain tile has also been used with great success.



overhead sprinkling should be given when needed, doing a thorough job of it and then waiting until water is needed again.

The stems may be blanched by hilling up with earth, by parallel boards, wrapping with paper or by placing sewer or drain tile over individual stalks. If earth is hilled around the plants, care must be taken to hold the leaves together closely while the soil is pulled up. This prevents dirt falling between the stalks, and if not done, the stalks will rot or rust before it is time to cut for use.

### Swiss Chard

Chard is grown very much like beets. The seed should be planted as soon as danger of freezing is over and cultivated frequently to stimulate fast growing, tender leaves. The leaves may be removed as required throughout the Summer. The white mid-ribs or leaf stalks make a desirable dish when prepared and served like asparagus. The younger leaves are prepared and served like spinach.

### Witloof Chicory (French Endive)

Plant as early in the Spring as the weather permits. Sow seed in drills 10 to 12 inches apart. Cultivate the plants thoroughly and frequently. Water when necessary until November. Then lift the plants and reset in a trench or under a greenhouse bench and cover with a layer of straw followed by a layer of warm manure several inches deep.

In about four or five weeks the central bud will have attained its proper size, forming a solid, blanched head that is highly prized as a salad for Winter use. The leaves may also be boiled and used as "greens." When served in this manner, they should be boiled in two waters to remove the bitter taste.

### Chive

The flat, hollow leaves of this plant are used for flavoring purposes. It is propagated from bulbs which renew themselves freely. The leaves may be cut as needed. They are quickly replaced by new growth.

### Collard

This is a variety of cabbage or kale. It can be planted and cultivated in much the same way. The plants stand heat much better than the other two and for that reason are more popular in the southern states. The leaves are tender and of delicate flavor when blanched.

### Sweet Corn

Corn does well in practically any soil that has been deeply plowed and thoroughly pulverized. Plant as early as danger of killing frosts has passed, either in hills or in rows. Hoe frequently until the tassels appear and then irrigate if the weather continues dry and hot at that time.

Results with corn depend upon the amount of water in the soil when the ears are in the "milk" stage. If necessary, therefore,



water copiously once or twice a week during this period. Allow the water to soak down deeply to the feeder roots and do not irrigate again for several days.

Sweet corn is one of the most convincing arguments in favor of the home garden. Many persons insist that they **cannot** eat corn and escape an attack of indigestion. The truth of the matter is that practically all corn secured on the market is from 24 to 48 hours old and that the first stages of deterioration have already set in. Ears taken directly from the stalk and prepared for the table immediately, have a delicious flavor that is only known to the elect few who grow their own. And such corn does agree with the most delicate digestive system because it is fresh.

### Water Cress

As a delicious salad plant, cress is worth the trouble required to grow it in the average garden. Secure some clumps of heavy sod and place these in a shady portion of the garden with the roots and soil turned upward. Mix the seed with a small quantity of dry soil or sand and sow over the inverted sod. Cover with cheese cloth and water frequently through the cloth to avoid washing the seed away.

While the seedlings are developing, nearly fill a tub with equal parts of garden soil and rotted stable manure. Wet down frequently to encourage further decay of the organic matter. When the seedlings have grown their fourth true leaf, move the sod clumps to the tub and press down firmly. Water freely and keep in partial shade until the plants have grown above the rim of the tub. From this time on, keep the tub filled with water, flush it out with fresh water once a week. When the leaves are large enough for use, cut and wash thoroughly.

### Cucumbers

Cucumbers should never be planted outdoors until warm sunny weather seems assured because the plants are very sensitive to frost and cold, wet weather. The soil can be prepared in advance of planting, however, by working an abundant dressing of complete commercial fertilizer, or of stable manure, into the hills being made ready for later planting.

Hills should be from four to six feet apart each way. Plant fifteen or more seeds in each hill, spread out well to allow all of them a fair start, and cover not more than an inch deep. After the seedlings come up, and a choice of the stronger plants can be made, thin each hill to three or four seedlings. Cultivate the soil thoroughly and frequently until the runners meet between the hills. Cut fruit from vine with a sharp knife as soon as it is large enough for use. They are best if gathered before the seeds harden and should be removed regularly because only a few large fruits will develop if they are left on the vines too long.

Early cucumbers may be obtained by planting seeds in bands or boxes in the hotbed or greenhouse. Plant out but **do not disturb**



the roots in the process. Bury the band or cut off the bottom of the box used and bury the remainder.

*Insects.* The striped cucumber beetle is the worst enemy of this plant. Dust with a mixture of lime and arsenate of lead or a mixture of lime and nicotine sulphate. Commercial "slug shot" is also recommended for this pest.

*Diseases.* Cucumber mildew is the most common disease, especially during exceptionally rainy weather. Spray the leaves, top and bottom, with Bordeaux mixture.

### Dandelion

Sow seed in open ground in rows, 12 to 15 inches apart and later thin to four or six inches apart. Dandelion may be used for two purposes—for "greens" or after blanching, as a salad plant.

Leaves for boiling may be picked at frequent intervals during the first Summer up to the time they become tough and bitter. If mulched, the roots will produce an abundance of leaves early in the Spring for many years to come.

Blanching for salad purposes may be accomplished by shielding the plants with two rows of boards placed on edge and inclined toward each other to form a long tunnel; with inverted flower pots; or with paper cone protectors. The central leaves grown during the shading period will be delightfully tender and sweet.

### Dill

A few feet in a row set aside for dill will be appreciated by the housewife when cucumber pickling season is at hand. Seeds germinate slowly and the seedlings are quite tender. For these reasons it is advisable to start the plants in a row or two of a flat.

They can be transplanted to the garden when danger of frost has passed. Set about four to six inches apart in rows that are 18 to 24 inches apart. Cultivate carefully, to keep down weeds and a supply of this delicious seasoning plant will be assured.

### Eggplant

This is a hot weather plant and thrives best in the Southern states or during exceptionally warm Summers in the North. Start seedlings in bands or pots in the hotbed or greenhouse about March 1st to 15th. Transplant to garden in May after tomatoes have been set out, because eggplant seedlings are very sensitive to cold or wet weather.

It is not advisable to plant where the soil has been fertilized with fresh manure because an abundance of organic matter is not favorable to their growth. Well prepared, loamy soil, treated liberally with commercial fertilizers, will produce best results. The plants should be given plenty of room for growth and cultivated frequently throughout the season.

*Insects.* In some sections the common Colorado potato bug infests egg plants. This can be controlled by slug shot or Paris green applied to the leaves and stems as required.



## Endive

Plenty of water and frequent cultivation are the secrets of a good endive crop. Sow seed in the open garden and when seedlings have made a good start, thin to 7 or 8 inches apart. When the outer leaves are long enough for tying (6 or 7 inches), gather them together over the heart and tie with string or raffia. Be sure leaves are dry when tied up or the heart will be in danger of rotting before ready for use.

This will permit the central bud to grow in shade and produce a tender, blanched head of young leaves. The heads should be used as soon as they are blanched. If desired for Winter use, lift the plants with as much soil on the roots as possible and store in cool cellar or shaded cold frame.

## Horseradish

Roots or "sets" are usually used for planting, and since horseradish grows rapidly, a small planting will supply enough fleshy roots for the average family. The plants are hardy and persist year after year. Because of their tendency to spread, they should be confined to an isolated portion of the garden.

Fertilize heavily with either manure or commercial fertilizer, keep down the weeds and horseradish will require no other attention. Roots may be dug whenever needed for use, even in the Winter.

## Kale

This is another member of the cabbage family but unlike the others, it does not thrive well in hot weather. The flavor is best after a light frost has touched the leaves. For Fall or Winter cutting, sow seeds in June and transplant when large enough, spacing out well between plants to permit wide spreading of the leaves. Fall plantings, if protected by a heavy **straw covering**, will produce very early Spring crop.

A Summer crop may be started in hotbed or greenhouse as early as February, transplanting as frequently as necessary for continuous growth. Set out into the garden as soon as weather conditions permit and hurry to maturity by cultivation and fertilizing before mid-summer.

## Kohl Rabi

Another cool-weather loving member of the cabbage family, kohlrabi is grown in many places where cauliflower does not do well. It should be planted as early in the Spring as the weather will permit and given every advantage that will encourage growth before hot weather sets in.

It is ready for use two or three months after planting and may be pulled as soon as the roots are 3 to 5 inches in diameter. If left in the ground during the hot part of the Summer, roots become tough and woody.

## Leek

In order to develop long, blanched stems, leek seeds should be sown in early Spring at the bottom of a furrow that is made 5 or 6



inches deep. As the plants grow, draw in the earth around them until the soil in the row is level with that of the remainder of the garden.

If ridge planting is preferred because of heavy or wet soil, the plants can be hilled up at each hoeing. Seedlings may be started in the hotbed if extra early plants are desired. The soil cannot be too rich for best results with leek, and a heavily manured plot should always be used when available.

### Lettuce

Good lettuce is a matter of experience and patience. The plants themselves will grow to maturity under almost any conditions, but the gardener's aim is to postpone the appearance of flowers and seeds as long as possible, in order to get a large crop of tender leaves.

To do this successfully requires soil, temperature and moisture in exactly the right condition. A light sandy loam soil is best, though a bit stiffer soil will be suitable, providing it can be kept loosened and well aerated.

Lettuce is a cool weather plant. It thrives well in early Spring or late Fall. It resists ordinary frosts very well, but can be killed out by continuous freezing.

Early Spring lettuce may be started in flats indoors or in hotbeds. The seedlings should be transplanted to cold frames after they have developed three or four leaves. If a cold frame is not available, plants can be held in the flats until the soil outdoors is warm and dry enough for working.

In either case, move them to the richest and best drained part of the garden plot. Set plants eight inches apart in rows spaced 18 to 24 inches apart. Cultivate the surface frequently. Be particularly certain to break up the crust that forms following heavy rains.

If the weather continues cool and damp, and in general very favorable, but the plants do not seem to make fast growth, you may stimulate them by an application of nitrate of soda, liquid manure or some high ammonia fertilizer. Apply any top dressing of this sort between the rows and stir in well.

### Muskmelon

Muskmelons will not do well until the soil is warm and dry, nor until danger of frost is over. If planted before that time, seedlings make very poor growth. Such plants seldom recover from the effects of their early set-back and rarely produce strong vines or desirable fruit.

In this case patience is far more desirable than haste in planting. If you live in the northern states where you cannot depend upon at least three or three and a half months of warm weather, it would not be advisable to plant them.

In the central and southern States, particularly in those sections where loose sandy soils are found, seeds should be planted in hills four to six feet apart, placing from six to twelve seeds in each hill.



Cultivate frequently and keep the soil about the hills and between the rows well mulched to hold moisture as close to the surface as possible. When the runners start, thin the plants to three or four plants in each hill. Dust with slug-shot, lime or road dust to control striped beetles. Mildew is often serious during wet weather. Spray with Bordeaux Mixture for this disease and use every means available to apply the solution to the under sides of the leaves.

Cultivation should be stopped about the time flowering is well advanced and young fruit is being formed. At that stage, permit the plants to grow unmolested, providing of course, that mildew or insects do not become a serious menace. Fruit should be picked as soon as it will easily separate from the stem. If the stem adheres firmly it is not ripe enough for picking.

### **Mustard**

This is one of the easiest plants to grow under almost any conditions. It persists so abundantly from year to year that it often becomes a troublesome weed.

Sow seeds thickly in the open garden. When the leaves are large enough to use for greens, the rows can be thinned out considerably, using those on plants removed for the table. A continuous supply of new tender leaves may be had throughout the season.

### **New Zealand Spinach**

Seeds are slow to germinate and should be soaked from twelve to twenty-four hours in warm water before planting. The plants stand hot climates much better than ordinary spinach and this vegetable is becoming popular in southern localities. Tender tips of young plants are pinched off for use and the plant allowed to remain in the row to produce more sprouts. Sow and cultivate as for ordinary spinach.

### **Okra (Gumbo)**

Okra is a very tender plant, especially when young, and seeds should never be planted before all danger of frost has passed. Soak the seeds from twelve to twenty-four hours in warm water before planting.

Seedlings can be started in berry boxes or in paper bands and thereby make an earlier start than is possible in the garden. Keep rows four or five feet apart and place plants two feet apart in the row. Rich, sandy soil and frequent surface cultivation are recommended until the plants cover the ground between rows.

The young pods, which set after flowers have fallen, are the edible parts and are prized in southern localities for soups and other dishes because of their distinctive flavor. If the pods are removed from time to time and none allowed to ripen, the plants will continue to flower and fruit until frost. Pods may be dried or canned for Winter use.

### **Green Onions**

These are grown from onion "sets" which are in fact diminutive bulbs. They grow best in a deep sandy soil that has abundant



organic matter in it. Muck land in old lake beds makes the best onion soil it is possible to find.

Pulverize the soil four or five inches deep. Stretch a line from side to side of the garden and plant the small sets two or three inches apart in the row and one or two inches deep.

Cultivate frequently, keeping the surface well pulverized. Hill up the row slightly as the tops appear, in order to blanch as much of the stem as possible. The plants can be pulled as needed for the table.

### Late Onions

Late or dry onions may be grown from seed or sets as preferred. Both methods require a deep, loose soil. Abundant organic matter or other plant food is necessary to produce a profitable crop of onions.

Seed can be most conveniently sown with the True Temper Drill or Midget Seeder. Seedlings may later be thinned to two or three inches apart after they become established. The plants require frequent surface cultivation.

As soon as the tops dry up and die, bulbs should be pulled and allowed to dry on top of the ground. Cut the tops off about three or four inches above the stems, gather in loose slat crates and store in a dry place. They must not be stored in large piles or heaps because of danger of rotting. If kept in crates or shallow trays with plenty of ventilation and at a cool (but not freezing) temperature, dry onions can be preserved for months.

### Parsley

Seeds are very slow to germinate and plants frequently do not appear above ground for three or four weeks after planting. Germination may be hastened by soaking seed in warm water for twelve to twenty-four hours. Sow in rows and thin the young plants to two or three inches apart. Leaves may be cut as soon as they are large enough for use.

Parsley is often used for edging of flower gardens and lends a deep green color that is difficult to obtain from other suitable plants. A light application of nitrate of soda between the rows hastens growth and enhances its flavor when used for soups or stews.

### Parsnips

Parsnips require a long season for full growth. The soil should be rich and well prepared. It should be thoroughly spaded to a depth of ten or twelve inches and the surface should be well pulverized. Sow the seeds in drills as soon as the weather will permit, avoiding, if possible, all exposure to frost.

Rows should be 18 to 24 inches apart with ten seeds placed to the foot. Cover with an inch of fine soil and firm down smoothly. When three or four leaves have been formed, thin to three inches apart in the row.

Supply plenty of moisture for steady growth and irrigate if necessary to avoid any setback. The roots are better flavored if



allowed to remain in the soil until frost, when they can be lifted with a fork, cleaned and then stored in pits or the vegetable cellar until needed for use.

### Peas

Here is another cool weather plant that stands light frosts and makes its best growth during the cool weather of early Spring months. For that reason, peas must be planted as early as the ground can be prepared.

Sturdy plants and large pods can be produced by planting seed in the bottom of a trench. Dig two trenches six inches deep with the corner of your garden hoe. Plant the seed at the bottom and cover with an inch or two of soil.

Firm down the soil over the seed with a narrow board or with the sole of the shoe, pressing lightly to compact the soil about them. As the seedlings develop, draw a bit of earth into the trench and around the plants to support them and to increase the length of the root systems.

As the vines begin to reach above the trench, arrange a brush or lattice trellis between the two rows for the plants to twine over. Keep the soil well cultivated and irrigated. Avoid application of fresh manure and other concentrated ammonia fertilizers because a rank growth of vines is almost sure to be accompanied by a low yield of pods.

Peas always improve when successive crops are planted in the same part of the garden. The root-nodule forming bacteria permeate the soil where the roots of a previous crop have decayed and give new plants a vigorous start.

### Peppers

These are similar in habit to tomatoes and egg plants. They are very tender and should never be set out in the garden until the season is well advanced. Sow seed in flats or hotbed about six or eight weeks before time for transplanting.

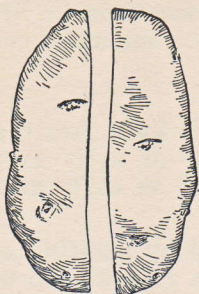
When three inches high, transplant to the garden, spacing about eighteen to twenty-four inches apart in the row. Cultivate frequently and keep the patch free from weeds. A top dressing of guano, liquid manure or tankage, when the plants are six inches high, will stimulate growth at the time flower buds are being set. This will result in more fruit, most of which can be brought to maturity if plenty of water is supplied. Irrigate freely if necessary.

### Potato

Potatoes thrive best on gravelly or sandy loam soil that is well drained and reasonably fertile. Fertility of any soil otherwise suitable can be increased by the liberal application of natural or commercial fertilizer that is rich in ammonia and potash.

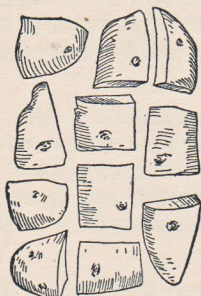
Money spent on fertilizer for use in the potato patch is well invested because this plant utilizes almost all the food matter it finds available and stores it up in a correspondingly large yield of tubers.





**Cutting Seed Potatoes**

The first cut should be through the tuber from tip to stem.



**Seed Pieces**

Be sure that every seed piece contains from one to three good eyes.

Spade (or plow if possible) the soil ten or twelve inches deep. Pulverize as deeply as you can and top mulch carefully to conserve moisture in advance of planting.

Cut the seed tubers carefully, being certain to leave at least two "eyes" on each piece to reduce the chance of undeveloped hills. Plant deeper in light soil than in clay land. The best depth ranges from 4 inches in the former to 2 inches in stiffer soil. Rows may be 24 to 36 inches apart and seed pieces placed from ten to fifteen inches apart in the row.

When planting by hand, the most convenient method is to carry the seed in a wide mouth canvas bag suspended from the shoulders by a strap. Open a hole of the determined depth with the hoe, drop a seed piece, cover quickly with the hoe and firm down by stepping upon the soil drawn in.

In wet climate, young plants should be hilled when four or six inches high and hilled again at each following cultivation.

In drier sections, level cultivation will be most satisfactory, but a surface stirring *must* be given at two week intervals until the vines meet between the rows.

Seasons and varieties vary so widely that few directions for harvesting can be offered. When the tops die down, either through maturity or disease, it is advisable to hill the soil over the former row of plants for several weeks unless thin skinned "new" potatoes are desired. If they are to be kept for any length of time, the thick tough skin formed during this period will improve their keeping qualities. Hilling aids in drainage and guards against blight rots.

## Pumpkin

Pumpkins are not so responsive to soil conditions as melons or cucumbers, though they are closely related plants and must be cultivated in much the same way. The vines are rank growers and are not generally suitable for garden plants. Plant in May. Place six to twelve seeds in hills spaced eight feet apart each way. Cultivate the surface of the hill carefully until the young plants appear and begin to run. Then thin to two or three sturdy plants and give them room to grow.



## Radish

Use the globe varieties for the early crop and longer types for later planting. Sow seed as soon as the soil becomes warm and workable. Put out successive plantings ten days apart.

Succulent and well flavored radishes are the product of a loamy soil and an abundant water supply. They must grow rapidly to be crisp and tender. Avoid the use of rich manure and do not plant where radishes, turnips or carrots were grown the year before.

## Rhubarb (Pie Plant)

Most home gardeners prefer to plant rhubarb roots which can be purchased from the nurseries rather than raise plants from seed. When roots are used, plant permanently in that section of the garden devoted to perennials. Dig a hole six to eight inches deep for each plant. Place the root in this in an upright position, and draw the soil in slowly, firming it down against the plant on all sides.

Cover the crown to a depth of four inches and water copiously at first to settle the soil around the roots. When the leaf shoots appear, cultivate around the plants, keep weeds down and occasionally apply a top dressing of nitrogeous fertilizer.

Early leaves may be forced in the Spring by placing a headless keg or barrel over each plant and filling these with strawy manure. By the time the weather has become mild, long blanched stems will be ready for cutting.

One important precaution must be observed in growing rhubarb. Flower and seed stalks must be cut back as quickly as they appear. The plant will die out if permitted to bear seed, while its life can be prolonged for years if this is prevented.

## Rutabaga (Swede)

These are similar to turnips in taste and in habit of growth. They should be planted about the latter part of May or first of June for late Fall maturity.

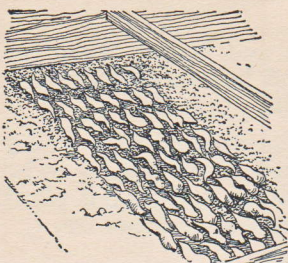
Sow seed closely in drills in well manured soil. Thin the young plants to eight or ten inches apart in the row and keep free of weeds. Occasional surface cultivation is required though plenty of moisture in the soil will improve size and flavor of the roots.

Pull plants out of the ground before hard freezing sets in. Knock off the soil that clings to the roots and store in a cool cellar.

## Salsify

This is called the "vegetable oyster" because of its decided oyster flavor when fried in butter. Depth and texture of the soil control the gardener's success with this plant. Spade up at least ten inches of soil, mix with sand if it is inclined to be heavy, and fertilize with light application of nitrate of soda or other commercial fertilizer.





**Bedding Sweet Potatoes for Slips**  
Arrange potatoes compactly in cold frame or hotbed and cover with loose earth or sand. Wet down thoroughly and keep quite moist until sprouted.

Sow the seeds in drills as suggested for carrots or parsnips. Thin to four or five inches and cultivate frequently to keep down weeds.

### Squash

The young plants are very tender and planting should be postponed until danger of frosts has passed. General planting and cultivation methods resemble those suggested for cucumbers and melons but the plants are not so responsive to soil conditions.

Plant in hills spaced four or five feet apart; place a half dozen seeds in each hill and thin down after sprouting to three vines per hill. Cultivate carefully until the vines begin to run, and dust for striped beetle if these become common while the plants are young.

### Sweet Potato

A warm, sandy soil is almost essential for good sweet potato cultivation, and unless this condition exists, a home gardener will be better repaid by spending his effort on some other plant. For best results, the soil should also be well manured, even applying the fertilizer in the row and then ridging soil over this, forming a plant bed with the manure beneath it.

Potatoes are sprouted in a hotbed and young "slips" transplanted to the garden row. Place the roots closely together (but without touching each other) in a hotbed and cover with three inches of sand. The bed should be wet down thoroughly and the cover placed in position to raise the temperature. Within a few weeks, a dense mass of slips will have developed from the roots.



**Sweet Potato Slips**

Slips should be eight to twelve inches tall before being removed from the parent root.

When the season is advanced to the point where soil is warm and the plants will flourish outdoors, the slips may be lifted, cut apart, and transplanted to the ridged beds previously prepared. Sweet potatoes are sensitive to an over abundance of water, and do best when kept quite dry.

Dig the roots before frost if possible, but if this cannot be done clip off the tops and hill the soil high over the bed.

Dry off well before storing and then place in well ventilated crates in a cool, dry cellar or potato house.



## Tomatoes

Tomatoes thrive and produce best in a medium heavy soil that has been well manured and well drained. Young plants are very tender and for that reason must be grown indoors or in hotbeds to gain an early start.

The earliest maturing varieties require from 108 to 110 days to produce usable fruit, and most growers are anxious to have bearing plants from July on through the Summer. Successive plantings of different varieties will insure a continuous crop if properly planned.

Seeds should be sown in flats, bands, greenhouse benches or hotbeds. As they reach five or six inches in height, young plants should be gradually hardened by exposure to cool temperatures. If permitted to make too rank growth, they will be too spindly and tender for transplanting.

If frost threatens after the plants have been set out in the garden, protect them with paper covers, boxes, pails, large flower pots or any other covering available. Weeks of work may be entirely lost if this precaution is not observed.

After plants have been set and their roots have taken hold, a light top dressing of nitrate of soda around the plants will have an immediately stimulating effect that will produce rapid vine growth. The fertilizer should be worked in thoroughly with the rake.

Plants will grow faster, and ripen their first fruit earlier, if they are supported by a stake or trellis of some sort. Such an arrangement keeps vines and fruit off the ground, permits better ventilation and increases the chances of ripening smooth, perfect tomatoes.

## Turnips

These can be planted for Fall use, after many of the Spring sown crops have been harvested. A fertile, deep soil is preferred but cool weather and an abundance of moisture are the factors which control results.

Sow (for Fall use) from the middle of June to the first of August in drills eighteen to twenty-four inches apart. Thin early and cultivate frequently. Keep down all weeds so that the growth of young plants will not be hampered. Early frosts improve the flavor of the roots, though they should be lifted and stored before the ground freezes hard.

For Summer use, sow seeds as early as possible. The seedlings are quite hardy and not seriously affected by frosts. Cultivate fre-



quently and irrigate freely to encourage rapid growth during cool weather. Hot weather ruins both texture and flavor.

### Watermelon

Plants require sandy soil, more space, more fertilizer and abundant soil moisture.

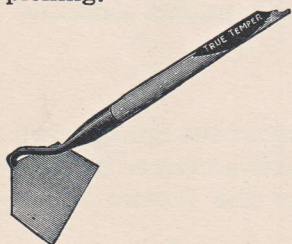
Plant seeds in hills ten feet apart and thin later to three sturdy plants. Apply top dressings of liquid manure or commercial fertilizers that are high in ammonia and potash.

### Small Fruits

When planting a strawberry bed or a patch of bush fruits such as raspberries, gooseberries, currants and the like, it will be well to consult the catalogs of reputable nurserymen. By buying the best varieties that are recommended by such nurserymen even though you pay a little higher price for such plants, you will be assured of having fruit that is true to name. With frequent cultivation and generous fertilizing and plenty of irrigation the small fruit garden will produce delicious desserts and often sufficient quantities for preserving and jelly making.

**Strawberries.** When the location for the strawberry bed has been determined, plow or spade the ground deeply in the late summer and let it lie fallow through the winter. Stir it again deeply in the spring before planting.

Plants should be set about a foot apart in rows eighteen inches apart. Three rows usually constitute a bed and a space of thirty inches should be left between beds for convenience in weeding or picking.



Nurserymen's or Strawberry  
Hoe NO7

Any of the True Temper hand weeders shown above are suitable tools for hand cultivating and weeding. The spreading of the strawberry plant makes it most undesirable to use a hoe or handled weeder. However, the square top strawberry hoe shown at the left has found favor in many localities where strawberries are grown under field conditions.

For winter protection strawberries should be covered with a layer of straw or leaves a foot or more thick. This prevents danger of heaving of the roots with alternate freezing and thawing during the open part of the winter.

A True Temper potato hook will be found to be an excellent tool for removing the winter protective mulch in the Spring. (This tool is illustrated on page 14.)



It will be interesting to know that this habit of protecting the plants in the winter gave use to the name "straw" berry.

**Raspberries and Blackberries.** These plants do best on fine sandy loams or light clay soils. No matter what the soil may be it must hold moisture in liberal quantities if the fruits are to do well. Stiff soils will be particularly benefited by the addition of unusually large amounts of organic matter, whether this be obtained from the turned under plants such as clover, rye, etc., or the addition of barnyard manure.

Good drainage is especially necessary because bush fruits will not do well in water logged soil.

It is essential for success in planting that the roots be protected from drying and that a good contact be made between the soil and the roots. The top of the plants should be cut back to about six inches from the crown.

The growing plants demand thorough and frequent cultivation. It should start immediately after planting; the top two or three inches of soil between the roots and around the plants should be kept loosened throughout the growing season and given plenty of water and fertilizer.

Canes that have borne fruit are of little value to the plant and may become the source of insect or disease infections to the new canes. It is advisable to remove them as soon as possible after harvest.

**Currants and Gooseberries.** These fruits may be grown on practically any kind of soil, though they do best on cool, well drained clay loam. Large fruited varieties are very much in demand although they are likely to be less productive than some other varieties with smaller fruits.

Place these plants in the garden in early spring, four or five feet apart each way. They should be cut back severely when set out, the amount of tops allowed to remain should depend upon the amount and condition of the root system.

They should be cultivated immediately after planting and at frequent intervals until mid-summer. Since both these plants are shallow rooted, surface cultivation should be shallow especially near the base of the plants. These plants also require plenty of water and fertilizer during the fruiting season.

If clover or rye is sown between the rows at the time of last cultivation and these plants turned under early in the spring, they will supply a very beneficial addition of organic matter to the soil.

The finest currants are produced at the base of one-year-old wood, and on one-year-old spurs which arise from two-year-old to three-year-old wood. Spurs from older wood produce much less fruit and smaller fruit than those on younger wood. The chief object in



currant pruning is to remove canes which have passed their best fruiting.

**Grape Growing.** The home gardener should not endeavor to bud his own stock, but will find it most convenient to purchase one-year-old plants after budding from reliable nurserymen where one can be assured of obtaining well known varieties.

Care must be exercised to avoid setting the plants too deeply where there will be any danger of the scion (or above the bud portion) of striking root. Plants of large vigorous varieties should be set from seven to nine feet apart in the row with rows six or seven feet apart.

The ideal soil is one which drains easily, which contains a liberal supply of plant food and one which is easily penetrated by the air. "Sponge like" soil is ideal because the vines are exceedingly deep rooted. Unless the soil is well drained, other drainage must be provided as the first step in the preparation of the vineyard.

It is best to wait until the soil is warmed up considerably before transplanting grape vines into a permanent position in the vineyard. With sun and warm rains they will take vigorous hold and show quick growth. Fall planting is not to be encouraged in the northern climates because of the danger of heaving due to intermittent thawing and freezing during the winter.



No. ASW

**Automobile and Outing Spade**

This is a very convenient little spade which is supplied with canvas case if desired and which can be carried in the tool compartment of an automobile without difficulty. It is twenty-four inches long over all and made of very high quality materials. It not only comes in handy for emergency use in digging the car out of holes and bogs, but is particularly desirable when in the country for gathering ferns and other plants for transplanting to the home garden. On camping trips it will serve a multitude of purposes.

The vineyard must be constantly cultivated because the exclusion of air and the rapid evaporation of moisture from untilled soils are the most dangerous enemies of the grape.

Removal of most of the previous year's vines tends to develop vigorous growth and abundant production of fruit the following season. For that reason it is advisable to prune back severely in the fall to the root stalk, leaving no more than two runners on the trellis.

The latter practice consists of removing new shoots with newly developed leaves. During the summer months the new shoots have been developed from material stored up the preceding season. When they are removed, the vigor of the plant is checked and fruitfulness increased. Summer pruning must be done before the leaves turn from the early light green color to the darker green of maturity.



# Your Flower Garden

Unless there is a complete library of catalogues and reference books at hand, the home gardener finds only a limited amount of information available regarding the arrangement and care of a general flower garden.

Few seedsmen and nurserymen ever attempt such a difficult and costly task. They prefer to be known as specialists in one or at most a few branches of the subject.

Obviously, the subject is too large to be discussed in any detail in such a general handbook as this. A few notes on each of the groups of flowers, with suggestions for their use and arrangement, will supply the greatest need of all. More detailed information may be secured from the specialists themselves, after the first plans have been decided upon.

## Roses

Roses do well in a clay or clay-loam mixture of soil. Besides being highly desirable in every garden, they are frequently used for the major plantings in places where other hardy plants and shrubs do not thrive so well.

Bottom drainage is unquestionably the most important part of rose culture. When preparing the rose bed, lift out the soil to a depth of eighteen or twenty inches and run a line of tile off to the low end of the lot. If tile drainage is not practical, place a thick layer of stones, crockery or brick bats over the bottom of the bed.

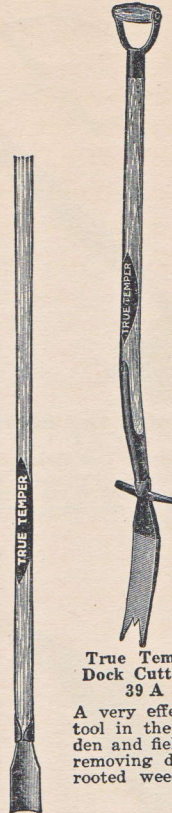
Mix a liberal application of well rotted stable manure with the soil as it is replaced, and pulverize it thoroughly during the process. Occasional dressings with bone meal, liquid manure and ground limestone, stirred in well, are beneficial.

## Bulbs and Roots

This group includes all of those flowering plants that are propagated by bulbs, corms, thickened roots, or tubers. Tulips, daffodils, narcissus, hyacinths, lilies, iris, peonies, perennial phlox are but a few of the many highly prized garden flowers.

In practically all cases, successful cultivation of this group of plants depends upon the texture of soil used. A loose, loamy soil, and rather shallow planting, are necessary for best results.

Tulips must be planted in massed beds to produce an effective display. There are many striking ways in which this can be done but two or three suggestions are given here for the beginner.

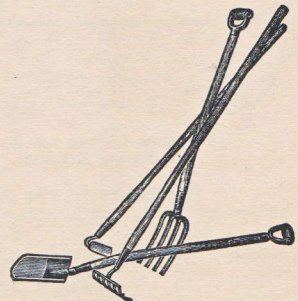


True Temper  
Dock Cutter—  
39 A

A very effective tool in the garden and field for removing deeply rooted weeds.

True Temper Dandelion  
Spud—D S

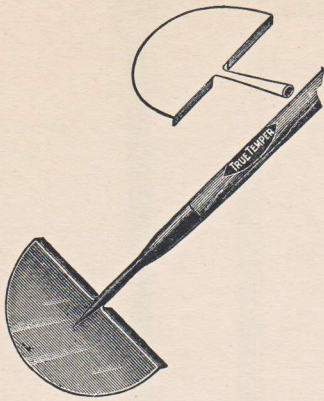
This is the most satisfactory tool needed for ridding the lawn of dandelions. It can be inserted deeply to cut the weeds below the crown.



True Temper Floral Set—4PSF

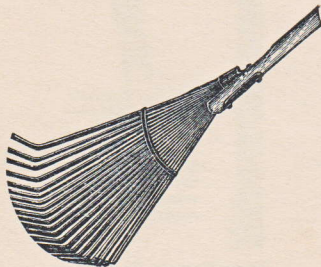
These handy garden sets are made of the highest grade True Temper Tools. While they do not comprise all of the tools which the successful gardener will find useful, they will serve as a very good start in the collection of a complete outfit.





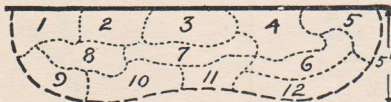
**True Temper Turf Edger—  
O 4 O F**

The flat top or foot rest on this edger makes it possible to apply all of the weight of the user in cutting thick sod around walks and drives.



**True Temper Brume Rake—  
FBR22**

This rake with flexible spring steel teeth is used as a broom with which you can sweep your lawn free of leaves and twigs without injuring the grass roots.



**Planting Layout for Shrubs  
Shown Below.\***

Numbers in the diagram refer to the following list of plants.

No.	Plants	Variety	Height	Color of Flowers	Blooming Month
1	8	Canterbury Bells	3 ft.	White	6-7
2	8	Hollyhocks	4-6 ft.	Pink	7-9
3	10	Helianthus, Soleil D'Or	4½-5 ft.	Yellow	8-9
4	8	Foxgloves	3-4 ft.	Purple	6-7
5	8	Phlox	3-4 ft.	White	7-9
6	8	Mist Flower	1½-2 ft.	Blue	8-10
7	10	Blanket Flower	2 ft.	Scarlet, Yellow	6-10
8	8	Achillea (The Pearl)	2 ft.	White	6-10
9	8	Hardy Candytuft	10 in.	White	5-6
10	8	Mountain Bluebell	18 in.	Blue	6-9
11	8	Leadwort	8 in.	Blue	8-10
12	8	Mountain Phlox	12 in.	Purple, Pink	6-7

\*This planting layout and list are reproduced by courtesy of Bobbink and Atkins, Rutherford, N. J.

The "cross" bed is one of the old stand-bys. A circular bed with two cross bars of solid reds or pinks, with corner of white or yellow, makes a very fine appearance. A "two-color" bed can be made of a center of one solid color and a harmonizing border around the outer edge of that.

Four colors can be arranged in four quarters of a circle, or with an outer border and the center divided into three equal masses of different colors.

Iris and lily-of-the-valley are usually placed in solid beds at one side of the house, fence or in a suitable corner. When a variety of iris is available, grouping is usually made with color of bloom and time of flowering in mind. Harmonizing colors are placed together.

Peonies lend themselves to isolated ornamental use in clumps as a part of the shrubbery plantings. They do equally well in a solid mass when colors are well arranged. Some very striking and gorgeous effects can be produced with just a little care and forethought in placing peony roots.

## Perennial Plants

These are the hardy, woody plants that remain in the garden from year to year. They die down or shed their leaves (except evergreens) in the Fall, put on new leaves and shoots in the Spring and add a touch of bright colors with every crop of flowers.

Arrangement for height of plant and color of flowers and foliage are the important points to consider when planting perennials. They are usually placed in massed plantings along walks or fences, in corners or about buildings. In many cases they are used as an ornamental screen, to break the monotony of straight lines or to add a touch of curve and color to an otherwise commonplace situation.

The accompanying plan is a suggestion for an arrangement of twelve very popular plants. The taller ones are at the back, with those of medium and lower height in front. Color combinations are well arranged and several of the number will be in bloom all through the Summer.



A suggestion for "an old-fashioned flower garden" that will brighten up a back yard, fence row or corner, is illustrated at the right. The plants recommended are listed below.

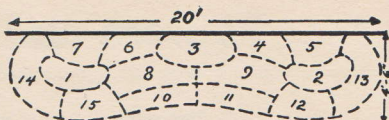
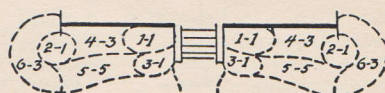


Diagram for Old Fashion Flower Bed\*

No.	Plants	Variety	Height	Color	Blooming Month
1	5	Blue Delphiniums	2-3 ft.	Blue	6- 8
2	5	Pink Phlox	2-3 ft.	Pink	6-10
3	5	Heliopsis	3-4 ft.	Yellow	7- 9
4	5	Beardstongue	2-3 ft.	Blue, Purple	6- 7
5	5	Hardy Asters	1-2 ft.	Mixed	7-10
6	5	Blue Sage (Salvia)	2 ft.	Blue	5- 7
7	5	Blazing Star	3-4 ft.	Blue	8- 9
8	5	Meadow Sweet	1-2 ft.	White	5- 6
9	5	Columbine	1-2 ft.	Mixed	5- 6
10	5	Hardy Grass Pinks	1 ft.	White, Rose	7-10
11	5	Lily of the Valley	1 ft.	White	4- 5
12	5	Stokes Aster	1-2 ft.	Various	8- 9
13	5	Brilliant Stonecrop	1½ ft.	Pink	8- 9
14	5	Hardy Chrysanthemums	1-2 ft.	Pink	9-10
15	5	Baby's Breath	2-3 ft.	White	8- 9

Foundation plantings about the porches, and steps of the home add the final touch that breaks the cold corners of brick and stone. Groupings suitable for this purpose can be selected from plants that bear beautiful flowers and add a touch of color to the mass of green foliage. A practical suggestion for an "about the house" scheme is diagrammed here. The plants recommended are named in the following list:



Suggestion for Foundation Plantings in Front of Home\*

No.	Plants	Variety	Height	Color	Blooming Month
1	2	White Spirea	2-3 ft.	White	5
2	2	Mock Orange	3-4 ft.	White	6
3	2	Snowberry	2-3 ft.	White	7- 8
4	3	Weigela Eva Rathke	1½-2 ft.	Red	7-10
	3	Gold Flower	1½-2 ft.	Yellow	7- 8
5	5	Japanese Barberry	1½-3 ft.		
	5	Regel's Privet	3-6 ft.		
6	6	Dwarf Deutzia	3-6 ft.	White	5

Evergreens add a touch of permanency to any massed or foundation planting. They weather the gales and snows of Winter when all other plants are bare of flowers and leaves. They are attractive all the year round and when properly arranged for size and color of foliage, make an effective and an interesting plant screen.



Foundation Planting of Evergreens is as Effective in Winter as in Summer

A stone, brick or stucco porch lends itself particularly well to evergreen ornamentation. The following plants are indicated by their numbers in the accompanying diagram.

No.	Plants	Variety	Height
1	2	American Arborvitae	2-3 ft.
2	2	Dwarf Arborvitae	1-1½ ft.
3	2	Pea-fruited Retinispora	1½-2 ft.
4	2	Japanese Yew	1½-2 ft.
5	1	Norway Spruce	1½-2 ft.
6	1	Boxwood	1½-2 ft.
7	1	Tom Thumb Arborvitae	1-1½ ft.

## Winter Protection

Shortly after the first killing frost, and before the ground freezes hard or is covered with snow, trim off the black twigs and stems and shape up the edges of the plants for next season's growth.

Then apply about two or three inches of loose strawy manure over the soil and around the plants. This protection will prevent winter killing of the roots and the injuries that accompany heaving of loose soil that freezes when full of water.

\*Planting layouts and lists on this page have been reproduced by courtesy of The Wm. H. Moon Company, Morrisville, Pa.



# Flowers and Garden Plants

Variety	Propagated by	Start Seed or Plants	Height of Plant	Color of Flowers	Month of Blooming
Abutilon	Seed, Plants	Garden	12"-36"	White, red, yellow	7- 9
Achyranthes	Plants	Garden	6"- 8"	Foliage, Purple	
Alternanthera	Plants	Garden	6"- 8"	Used for leaf colors	7- 8
Ageratum	Seed	Hotbed, Garden	5"	Blue, White	6-10
Alyssum	Seed	Garden	10"	White	6-10
Amaranthus	Seed	Garden	36"-60"	Red	7-10
Amethyst	Seed	Garden	18"-24"	Blue, White	7-10
Angel's Trumpet	Seed	Hotbed, Garden	7"- 9"	White, Purple	7- 8
Arctotis	Seed	Garden	24"-36"	Yellow, Red, Purple	6- 8
Asparagus Plumosus	Plants	Garden, Pots	10"-30"		
Asperula	Seed	Garden	9"	Blue	6-10
Asters (Early)	Seed	Hotbed	15"-30"	All colors	6- 8
Asters (Late)	Seed	Garden	20"-30"	All colors	7-10
Baby Breath	Seed, Plants	Garden	24"-36"	White	8- 9
Bachelor's Buttons	Seed	Garden	12"-24"	Blue, Rose, White	7- 9
Balloon Vine	Seed	Garden	8-12 ft.	Vine	8- 9
Barberry (Japan)	Plants	Garden, Hedge	20"-40"	Foliage and Berries	
Begonias	Seed, Plants	Garden, Pots	10"-24"	Red and Pink	Continuous
Black Eyed Susan	Seed	Garden, Boxes	60"	Buff, White, Orange	6-10
Bleeding Heart	Roots	Garden	12"-18"	Red	6
Blue Flower	Seed	Garden	24"	Blue	6- 8
Blue Lace Flower	Seed, Cuttings	Garden, Green-house	24"	Blue	7
Butterfly Flower	Seed	Hotbed, Garden	15"-20"	Mixed	8- 9
Cactus	Plants	Garden	6"-15"	Many colors	Some are night bloom
Calendula	Seed	Garden	10"-12"	Orange, Red, Yellow	6-11
California Poppy	Seed	Garden	9"-12"	Yellow	6-11
Calliopsis	Seed	Garden	24"	Yellow, Orange	6-10
Canary Bird Flower	Seed	Garden	Vine 20 ft.	Golden	7-10
Candytuft	Seed	Garden	12"	All colors	6- 9
Canna	Seed, Bulbs	Hotbed, Garden	40"-60"	All colors	7-10
Campanula	Seed	Garden	24"-36"	Blue and White	8- 9
Cardinal Climbers	Seed, Cuttings	Garden, Hotbed	20 feet	Red	7- 8
Carnation	Seed, Cuttings	Garden, Green-house	10"-15"	All colors	7-10
Castor Oil Bean	Seed	Garden	12 feet	Red, White, Purple	7- 8
Chinese Bell Flower	Seed	Garden	12"-24"	Blue and White	6-11
Chrysanthemum	Seed, Plants	Garden, Green-house	30"-72"	All colors	9-11
Cigar Plant	Plants	Garden, Pot	15"	Scarlet	6-10
Cineraria	Seed, Plants	Garden	12"-18"	All colors	6- 8
Cinnamon Vine	Bulbs	Garden	Vine 20 ft.	White	8- 9
Cobaea	Seed	Garden	Vine 30 ft.	Purple	8
Cockscomb	Seed	Garden, Hotbed		Red and Yellow	8-10
Coleus	Seed	Hotbed, Garden	8"-12"	Used for leaf colors	6-11
Columbine	Seed Plants	Garden	36"	Violet	6-10
Clarkia	Seed	Garden	24"	Red, Pink, White	6- 8
Clematis	Seed, Plants	Garden	20 feet	White, Purple	7- 9
Cleome	Seed	Garden	48"-60"	Rose	7-11
Coreopsis	Seed	Garden	24"	Yellow	7-10
Cornflower	Seed	Garden	18"-20"	Blue	6-11
Cosmos	Seed	Garden	48"-72"	All colors	9-10
Crocus	Bulbs	Garden	8"-12"		4-5
Cyclamen	Bulbs	Pot	12"-18"	All colors	Winter
Dahlias	Seed, Roots	Garden	24"-40"	All colors	8-10
African Daisy	Seed	Garden	12"-15"	White, Blue, Red	7-10



Variety	Propagated by	Start Seed or Plants	Height of Plant	Color of Flowers	Month of Blooming
Blue Daisy	Seed, Plants	Garden	12"-18"	Blue and Yellow	6- 8
Double Daisy	Seed, Plants	Garden	24"	All colors	4- 6
Shasta Daisy	Seed	Garden	24"	White	7-10
Swan River Daisy	Seed	Garden	12"	Blue, White	7- 9
Dianthus (Pinks)	Seed	Garden	12"-15"	Scarlet, Pink, White	6-11
Delphinium	Seed, Plants	Garden	24"-36"	Blue	6-10
Echeveria	Seed, Plants	Garden	9"-12"	All colors	7- 8
Elephant Ear	Bulbs	Garden	72"-84"	Red, Yellow	8- 9
Everlasting Flowers	Seed	Garden	12"-18"	Yellow	9-10
Fern, Boston	Plants	Pots	10"-60"	Fronds	
Fern, Maiden Hair	Plants	Pots	10"-20"	Fronds	
Feverfew	Seed	Garden	18"	White	7-11
Forget-me-not	Seed	Garden	6"	Blue	6- 8
Fountain Grass	Seed, Roots	Garden	36"-48"	Spikes, vari-colored	7-10
Four-O'clocks	Seed	Garden	30"	All colors	6- 8
Foxglove	Seed	Garden	18"-24"	All colors	7- 8
Freesia	Seed, Bulbs	Pots	12"-18"	White, Pale Yellow	
Fuchsia	Plants	Garden, Pots	10"-14"	All colors	6-10
Gaillardia	Seed	Garden	18"	Red, Yellow	6- 8
Geranium	Seed or Plant	Hotbed, Green-house	10"-15"	All colors	6-10
Gladiolus	Bulb	Garden	15"-18"	Rose, Pink, Yellow, Purple, White	8-10
Gloxinia	Seed, Plants	Hotbed, Garden, Pots	5"	Scarlet	6- 7
Golden Glow	Seed	Garden	6 feet	Yellow	8-10
Heliotrope	Seed	Garden	6"-12"	Blue, Lavender, White	6- 7
Hibiscus	Seed, Plants	Garden	48"-70"	Red, Pink, White	7-10
Hollyhock	Seed, Roots	Garden	60"-100"	All colors	7-10
Honeysuckle	Plants	Garden	Vine	Yellow	6-10
Hyacinths	Bulbs	Garden, Pots	8"-10"	All colors	4
Hyacinth Bean	Seed	Garden	Vine 10 ft.	Purple, White	7- 9
Hydrangea	Plants	Garden	24"-48"	White, Pink, Blue	7-10
Ice Plant	Seed	Garden	6"-10"	Blue	5- 7
Iris (Flags)	Roots	Garden	8"-15"	Blue, Red, Yellow	4- 5
Ivy	Seed, Cuttings	Garden, Pots	Vine 10 ft.	Foliage	
Job's Tears	Seed	Garden	24"-30"	Foliage	
Lady Slipper	Plants	Garden	24"	All colors	4- 5
Lantana	Seed, Roots	Garden, House	8 ft.-10 ft.	All colors	6-11
Larkspur	Seed	Garden	24"	All colors	6- 7
Lilac	Plants	Garden	48"-60"	Lavender, White	5- 6
Lilies	Bulbs	Greenhouse, Pots	10"-18"	White	4- 5
Lily of the Valley	Roots	Garden	6"- 8"	White	5- 6
Lobelia	Seed	Garden	6"	Blue	6- 8
Lupins	Seed	Garden	4 feet	All colors	7- 9
Matthiola (Evening Scented Stock)	Seed	Garden	16"	Purple, Lilac	6-10
Marigold	Seed	Garden	36"	Mixed colors	6- 9
Mignonette	Seed	Garden	6"- 8"	Mixed colors	6-10
Mock Orange	Plants	Garden, Hedge	60"-120"	White	5- 6
Morning Glory	Seed	Garden	10 ft.-20 ft.	All colors	7-10
Narcissus (Daffodils)	Bulbs	Pots or Garden	6"-12"	Yellow, White	4- 5
Nasturtiums	Seed	Garden	6"-36"	All colors	7-10



Variety	Propagated by	Start Seed or Plants	Height of Plant	Color of Flowers	Month of Blooming
Nicotiana (Sweet) Scented Tobacco)	Seed	Garden	3 ft.	All colors	7-10
Oleander	Plant	Garden, Tubs	48"-60"	White, Pink	6-10
Oxalis	Seed	Garden	9"-12"	Yellow, Rose	8-10
Palms	Plants	Pots	3 ft.-10 ft.	Foliage	
Pansy	Seed	Garden	3"-6"	All colors	6-11
Passion Flower	Seed, Plants	House, Garden	20 ft.-30 ft.	All colors	7-9
Pelargonium	Roots	Garden	6"-18"	Red, White	4-9
Peony	Roots	Garden	15"-30"	White, Yellow, Red	6
Perennial Peas	Seed	Garden	6 ft.	White, Pink, Rose	6-10
Petunia	Seed, Plants	Garden	18"	All colors	6-8
Phlox Drummondii	Seed	Garden	12"	All colors	7-8
Poppies	Seed	Garden	18"	All colors	6-7
Poppy, Oriental	Roots	Garden	18"	Red, Pink	5-6
Portulaca					
(Moss Rose)	Seed	Garden	6"	Mixed colors	7-10
Primrose	Seed, Plants	Garden, Pots	6"-9"	All colors	4-5
Privet	Plants	Garden, Hedge	12"-15"	White	6-7
Red Hot Poker	Roots	Garden	8"-10"	Orange, Scarlet	8-10
Rhodanthe	Seed	Garden	12"	Varied	7-9
Rose	Plants	Garden	1 ft.-4 ft.	All colors	June and Monthly
Rosemary	Seed, Plants	Pots, Garden	40"-48"	Lilac	4-5
Salvia					
(Flowering Sage)	Seed, Plants	Garden	15"-30"	Red	8-10
Scabiosa	Seed	Garden	30"	All colors	6-8
Smilax	Plants	Pots, Garden	4 ft.-6 ft.	White	8-9
Snapdragon	Seed, Plants	Garden	24"-36"	Red, White	7-9
Snowberry	Plants	Garden	36"-60"	Pink, White	7-9
Spiraea	Plants	Garden	36"-60"	White, Red	6-7
Star Jasmine	Bulbs	Garden, Pots	10"-12"	White	Continuous
Stocks	Seed	Hotbed, Garden	20"	All colors	6-9
Summer Cypress	Seed	Garden	24"-36"	Red	9
Sunflower	Seed	Garden	60"	All colors	6-8
Sumach	Plants	Garden	10 ft. 15 ft.	Yellow	7
Sweet Peas	Seed	Garden	36"-48"	All colors	6-8
Sweet Rocket	Seed, Plants	Garden	24"-30"	White, Lilac, Purple	7-8
Sweet William	Seed	Garden	20"	Pink	7-10
Tamarix	Plants	Garden	8 ft.-12 ft.	Pink	4-10
Tuberoses	Bulbs	Garden, Hotbed	24"	White	6-7
Tulips	Bulbs	Pot, Garden	10"-15"	All colors	5
Velvet Flower	Seed	Garden	30"	All colors	7-10
Verbena	Seed, Cuttings	Hotbed, Garden	10"-12"	All colors	6-10
Vinca	Seed	Hotbed, Garden	18"	Red, White, Blue	6-8
Violets	Plants	Garden	3"-8"	White, Blue	3-4
Virginia Creeper	Plants	Garden	20 ft.-40 ft.	Foliage	7-8
Wallflower	Seed	Hotbed, Garden	12"-18"	Purple, Brown	Biennial
Weigela	Plants	Garden	36"-60"	Red, White, Pink	5-7
Wistaria	Seed, Plants	Garden	Vines to 40 ft.	Purple	Blooms after 2nd year
Wood Fringe	Seed	Garden	Vine	Pink	7-10
Yucca	Seed, Plants	Garden	60"-70"	Cream	8-9
Zinnia	Seed	Garden	24"-40"	Mixed colors	6-11



## NOTE

Those who are not thoroughly familiar with our history and with the tools made by our Company, may be interested to know that we are the oldest manufacturers of garden tools in this country—in fact, some of our factories have been in continuous operation for over a hundred years.

During this long experience in manufacturing tools, we think we have learned to manufacture them right.

We call them "TRUE TEMPER" Tools because they are "True" in shape, in hang and in finish, and because they possess to a superlative degree that marvelous, yet mysterious, quality called "Temper," which makes a tool "fit" for the service for which it was designed.

These tools are warranted by us, yet sell for very little more than unwarranted tools made by less experienced manufacturers. They can be easily distinguished, because the words "TRUE TEMPER" (in addition to the regular factory brand)\* are burned in the handle of every "TRUE TEMPER" Tool.

To any who would like to have more detailed information about the thousands of TRUE TEMPER tools that we make, we would be glad to send on request, free of charge, the companion to the Garden Book, which is called a "Book About True Temper Tools" or by some "The Users' Book," because it contains just the information that a user needs in order to enable him to do work at the least possible cost, and with the least effort.

We feel it would be to your interest to request that your dealer furnish you with only "TRUE TEMPER" Tools.

If you can not get what you want, in the way of tools or information, from your dealer, write us.

### THE AMERICAN FORK AND HOE COMPANY

"Department G"

1910 Keith Building, 1623 Euclid Avenue  
Cleveland, Ohio

\*Our regular factory brands which are made in "True Temper" quality, are as follows:

Ashtabula  
Diamond  
Batcheller  
Bolles  
Ely

Fort Madison  
Iowa  
Philadelphia  
Fairmount  
Harriman  
Geneva

Otsego  
Memphis  
Southern  
Jackson  
Withington



# ***TRUE TEMPER PRODUCTS***

## **Tools to Work With**

**Light Forks** for handling Hay, Manure, Barley, Alfalfa and other light materials.

**Heavy Forks** for handling Coal, Coke, Railroad Ballast, Stone, Vegetables and other heavy materials.

**Spading and Digging Forks** for use in the cultivation of gardens.

**Rakes** of many kinds, both light and heavy.

**Hooks** for every purpose.

**Hoes** of a great variety of sizes and kinds, some with handles and some without handles.

**Weeders** and many other tools for use in gardens and flower plots.

**Hand Cultivators and Seeders** of many kinds.

**Sidewalk Cleaners and Ice Chisels** for keeping sidewalks clean of ice and snow in the winter.

**Corn Hooks** for cutting corn.

**Shepherd Crooks, Cattle Prods, Hose Reels, Automobile Spades, Hay Knives,** and many other miscellaneous tools.  
and

**Right Repair Handles** for all of the above tools.

## **Tools to Play With**

**True Temper One-Piece Steel Fishing Rods.**

**True Temper Golf Shafts.**

**Tubbs Skis and Snowshoes.**

## **Improved Railway Appliances**

**True Temper "Stead" Rail Anchors.**

**True Temper Tapered Rail Joint Shims.**

## **THE AMERICAN FORK & HOE CO.**

1623 EUCLID AVENUE

CLEVELAND, OHIO

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**Joseph Schweitzer**

1918 Niagara St., Buffalo, N. Y.

STOVES & HARDWARE